



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

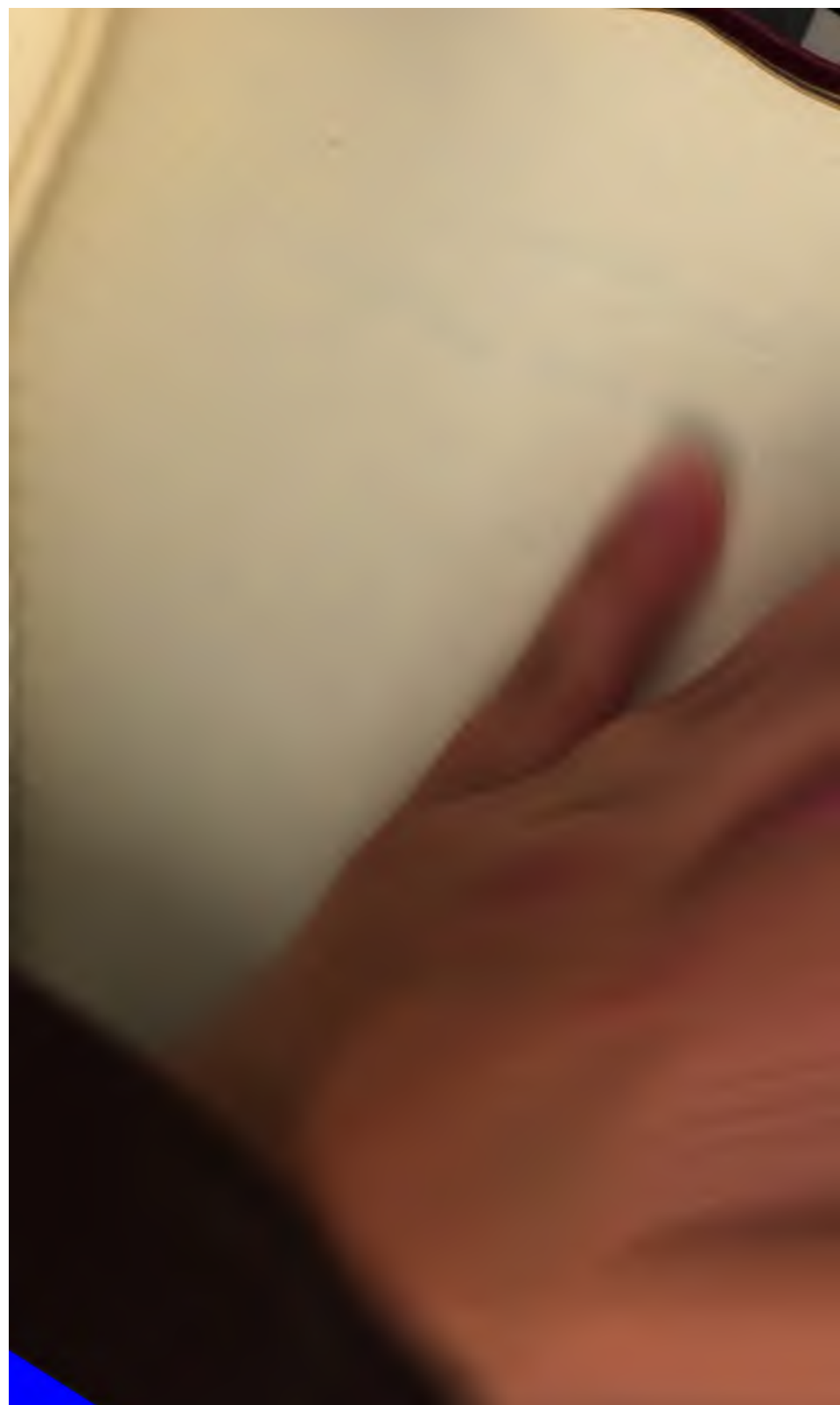
- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

B 1,098,213





THE
PHRENOLOGICAL
JOURNAL AND MISCELLANY.

VOL. VII.

MARCH 1831—SEPTEMBER 1832.

“Wherefore our decision is this; that those precepts which learned men have committed to writing, transcribing them from the common reason and common feelings of human nature, are to be accounted as not less divine than those contained in the Tables given to Moses; and that it could not be the intention of our Maker to supersede by a law graven upon stone, that which is written with his own finger on the table of the heart.”—**MELANCTHON.**

EDINBURGH:
JOHN ANDERSON JUN., 55. NORTH BRIDGE STREET,
AND SIMPKIN AND MARSHALL, LONDON.

MDCCCXXXII.

BF
866
.P57

THE
PHRENOLOGICAL JOURNAL.

No. XXVII.

ARTICLE I.

LETTERS ON DEMONOLOGY AND WITCHCRAFT. Addressed
to J. G. LOCKHART, Esq. By SIR WALTER SCOTT, Bart..

"IN the present condition of human knowledge," *every* thing that comes from our gifted countryman's pen is pronounced to have of course the impress of his genius; and is ushered into notice by all the journals, with the opinion reduced to a formula, that "no other man but Sir Walter Scott could have written the matter or thing now before us." With regard to his volume on Demonology, however, there is a certain set of heretics to this faith, whom posterity at least will not laugh to scorn when they bring that imposing work to *their* bar; and, in so far as it is any thing more than a compilation of ghost and goblin stories, with no essential advantage over Mother Bunch, in point of literary exaltation,—in other words, in so far as it attempts to supply a philosophical solution of its subject,—pronounce it one of the most solemn failures, Dr Hibbert's not excepted, which the prevailing non-philosophy which yet darkens and deranges human thinking could have brought forth.

Phrenologists claim an especial title to tell Sir Walter Scott when and where he fails, when and where his order of talent and kind of acquirements are at work in a wrong direction; just because they, of all his critics, have done him the most honour when occupying his own peculiar and high literary station, and have best understood and appreciated his legitimate efforts of genius; for they alone have applied to them a test, which they have been found to stand, a strict philosophical analysis on those principles of human nature which their science has demonstrated to be true. They have repeatedly said, and have never seen reason to alter or even modify the opinion, that Sir Walter Scott, like Shakespeare, is a painter, and not a philosopher. Although endowed with matchless powers of observing, and also of delineating human

VOL. VII.—NO. XXVII.

A

phenomena (and we have in our critiques of many of his works minutely analyzed these powers), in other words, the manifestations in human conduct which result from the human faculties as springs of action, he is not only uninformed of the right analysis of these powers, as single or compound impulses, but resists and ridicules that analysis, under the despised name—in ignorance despised—of Phrenology. Yet this very Phrenology, as no *impartial* person who knows what it is can for one moment deny, completely illustrates all the pictures which he draws, and accounts for the effect which they produce upon his readers, whose nature responds to them. It follows that whenever, after painting a character of eccentricity, incongruity, or contradiction, he attempts a philosophical *rationale* of it, we are not aware of one instance where he has succeeded. Shakspeare is too wise ever to make this attempt. He contents himself with faithfully giving the likeness; but we do not remember an example of his offering its philosophy. He gives us the *what* with a truth to which all our feelings vibrate, but he never speculates about the *wherefore*.

It is one of the most humiliating proofs of the truth of Mr Stewart's confession, that "the philosophy of mind is yet in expectation," that the very obvious distinction between what Sir Walter Scott can do, and cannot do, has a very slender chance of being comprehended by any but phrenologists. We have heard it said sardonically, What! a writer who is so true to nature in all his delineations of human character! he not profoundly skilled in human nature! How could he draw his pictures, without knowing intimately and minutely the whole anatomy of the human heart! and how could he marshal and manœuvre his numerous characters, each speaking and acting in the exact line marked out for it, in all its appearances and reappearances on the stage of the story, and that without a perceptible inconsistency, if he did not know and discriminate with philosophical precision, in all their finest shades, the springs and impulses of human conduct, and all the varieties of human motives! To this we answer, that Sir Walter Scott *observes* the phenomena of life, and in imitating these in his fictions, does no more than the historical painter, who places before us *his* imitations of human passions and feelings, in the expressions of human faces, and the attitudes of human bodies. But the painter does not require to go deeper. He observes these expressions and attitudes as indicating, or rather always accompanying, certain human feelings, often in considerable combination; but his picture does not absolutely depend, for its accuracy,—for there exist very perfect works of art without it,—on his analyzing these feelings, tracing them to their primitive impulses, or anatomically pointing out the nerves which contract the muscles of the countenance into a smile or a frown, a glance of haughtiness or a look

of submission; a leer of cunning or an aspect of guilelessness; and still less on following these nerves to their origins in the brain, where all the feelings have, to human ken, their ultimate connexion or dependence. We say does not *absolutely* depend on such knowledge; although the possession of it must be, and, we have the testimony of artists of the first eminence, who are phrenologists, for saying, *is* an instrument of immense power in elevating the character and testing the truth of their works; and so would it be, in his line of art, to Sir Walter Scott.

In short, without being possessed of a true analysis of mind, a writer can but guess at the *causes* of human conduct; and although he may occasionally guess aright, especially in those simpler manifestations which constitute every-day character and conduct, he cannot advance into more complicated combinations, without suffering from his ignorance of some important and essential element, for want of which his theory will be utterly inapplicable.

It is from this very defect that Sir Walter Scott's philosophy of demonology is false. It is almost all contained in his first chapter; the other nine being devoted to details (in which much antiquarianism and much learning, *valcant quantum*, are displayed,) of the various modes in which the belief and love of the supernatural have operated in different ages of the world; of the curious connection which existed and exists between the superstitions of various ages and nations; of the ferocious persecutions for imputed sorcery and witchcraft; with a great number of instances of apparitions and supernaturalities of all descriptions and denominations, with none of which we have any thing to do. We have in a former Number (page 504, of Volume VI.) given a sufficiently ample detail of these specific sufferings of the misdirected faculties of man, to enable us to arrive at certainty in our conclusions as to what these faculties are. Sir Walter Scott has given several of the same instances, and some additions; but with this difference, that he has not correctly traced their connexion with the human mind; and indeed, with the exception of the phenomena of apparitions which he does endeavour, although erroneously, to account for, he does not even attempt to explain philosophically man's tendency to believe in supernatural agency; but merely details historically the varied manifestations of this tendency, in witch and ghost and goblin stories without end; and thereby only amplifies the literature of that delightful horror of our childhood, Mother Bunch.

Sir Walter's philosophical chapter commences with this announcement;

"I do not mean to combat the systems of those by whom I am anticipated in consideration of the subject, or to erect any new one of my

phenomena (and we have in our critiques of many of his works minutely analyzed these powers), in other words, the manifestations in human conduct which result from the human faculties as springs of action, he is not only uninformed of the right analysis of these powers, as single or compound impulses, but resists and ridicules that analysis, under the despised name—in ignorance despised—of Phrenology. Yet this very Phrenology, as no *impartial* person who knows what it is can for one moment deny, completely illustrates all the pictures which he draws, and accounts for the effect which they produce upon his readers, whose nature responds to them. It follows that whenever, after painting a character of eccentricity, incongruity, or contradiction, he attempts a philosophical *rationale* of it, we are not aware of one instance where he has succeeded. Shakspeare is too wise ever to make this attempt. He contents himself with faithfully giving the likeness; but we do not remember an example of his offering its philosophy. He gives us the *what* with a truth to which all our feelings vibrate, but he never speculates about the *wherefore*.

It is one of the most humiliating proofs of the truth of Mr Stewart's confession, that "the philosophy of mind is yet in expectation," that the very obvious distinction between what Sir Walter Scott can do, and cannot do, has a very slender chance of being comprehended by any but phrenologists. We have heard it said sardonically, What! a writer who is so true to nature in all his delineations of human character! he not profoundly skilled in human nature! How could he draw his pictures, without knowing intimately and minutely the whole anatomy of the human heart! and how could he marshal and manœuvre his numerous characters, each speaking and acting in the exact line marked out for it, in all its appearances and reappearances on the stage of the story, and that without a perceptible inconsistency, if he did not know and discriminate with philosophical precision, in all their finest shades, the springs and impulses of human conduct, and all the varieties of human motives! To this we answer, that Sir Walter Scott *observes* the phenomena of life, and in imitating these in his fictions, does no more than the historical painter, who places before us *his* imitations of human passions and feelings, in the expressions of human faces, and the attitudes of human bodies. But the painter does not require to go deeper. He observes these expressions and attitudes as indicating, or rather always accompanying, certain human feelings, often in considerable combination; but his picture does not absolutely depend, for its accuracy,—for there exist very perfect works of art without it,—on his analyzing these feelings, tracing them to their primitive impulses, or anatomically pointing out the nerves which contract the muscles of the countenance into a smile or a frown, a glance of haughtiness or a look

of submission; a leer of cunning or an aspect of guilelessness; and still less on following these nerves to their origins in the brain, where all the feelings have, to human ken, their ultimate connexion or dependence. We say does not *absolutely* depend on such knowledge; although the possession of it must be, and, we have the testimony of artists of the first eminence, who are phrenologists, for saying, *is* an instrument of immense power in elevating the character and testing the truth of their works; and so would it be, in his line of art, to Sir Walter Scott.

In short, without being possessed of a true analysis of mind, a writer can but guess at the *causes* of human conduct; and although he may occasionally guess aright, especially in those simpler manifestations which constitute every-day character and conduct, he cannot advance into more complicated combinations, without suffering from his ignorance of some important and essential element, for want of which his theory will be utterly inapplicable.

It is from this very defect that Sir Walter Scott's philosophy of demonology is false. It is almost all contained in his first chapter; the other nine being devoted to details (in which much antiquarianism and much learning, *valeant quantum*, are displayed,) of the various modes in which the belief and love of the supernatural have operated in different ages of the world; of the curious connection which existed and exists between the superstitions of various ages and nations; of the ferocious persecutions for imputed sorcery and witchcraft; with a great number of instances of apparitions and supernaturalities of all descriptions and denominations, with none of which we have any thing to do. We have in a former Number (page 504, of Volume VI.) given a sufficiently ample detail of these specific sufferings of the misdirected faculties of man, to enable us to arrive at certainty in our conclusions as to what these faculties are. Sir Walter Scott has given several of the same instances, and some additions; but with this difference, that he has not correctly traced their connexion with the human mind; and indeed, with the exception of the phenomena of apparitions which he does endeavour, although erroneously, to account for, he does not even attempt to explain philosophically man's tendency to believe in supernatural agency; but merely details historically the varied manifestations of this tendency, in witch and ghost and goblin stories without end; and thereby only amplifies the literature of that delightful horror of our childhood, Mother Bunch.

Sir Walter's philosophical chapter commences with this announcement;

"I do not mean to combat the systems of those by whom I am anticipated in consideration of the subject, or to erect any new one of my

own ; but to confine myself to narratives of remarkable cases, and to the observations which naturally and easily arise out of them. A few general remarks on the nature of demonology, and the original *cause* of the almost universal belief in communication betwixt mortals and beings of a *power superior* to themselves, and of a nature not to be comprehended by human organs, are a necessary introduction to the subject."

We agree with the author, that his views of this *cause* are not new. But as they are adopted by him, and will by that adoption gain currency, we feel it our duty, holding them, as we do, to be erroneous, to point out wherein their error lies. He states as a cause of this universal belief of communication between mortals and beings of a *power superior to themselves*, the belief of the immortality of the soul, and its separate existence, which lead to the conclusion, that "myriads of disembodied spirits," which once inhabited human bodies, exist somewhere, and *may* have the power granted them of "revisiting the glimpses of the moon," by miracle of course. Now, it is evident that the author has forgotten that he cannot throw the slightest light on the belief of gods and demons, by shewing how the belief of what may be called mere *human* ghosts has come to prevail. The firm belief of gods and demons, and of their concern in the affairs of men, has prevailed and does prevail in nations who had and have no idea of the immortality of the soul, and who could never have got the notion of *superior* beings through that channel. Such a non-sequitur would never have been committed, had the author been in possession of the knowledge that there is in man's nature a faculty which performs that function directly by its own specific activity ; which, by rendering universal a belief in superior existences, and, in combination with another faculty which impels him to worship superior beings whose existence he believes, constitutes man essentially a religious being. These faculties are Wonder and Veneration ; and we have shewn in our article on Demonology, already alluded to, in what way the excessive or diseased action of these two faculties produces all the phenomena of the wildest superstition. But the existence of these faculties not being known when the author studied the human mind at college, it was not to be expected that he could have the benefit of their ready solution of the difficulty in his way,—a difficulty which he has either purposely evaded, or attempted to explain by a theory which has no connexion with it. If gods and demons, we repeat, are objects of human belief,—however erroneously as to their supposed nature when intellect is unconsulted,—in consequence of the blind impulse of a primitive feeling, a complete demonology may exist, and has existed, without the belief of the immortality of the soul.

But as, in the rest of the chapter, the author abandons the question of the belief of *superior* beings, and limits himself to the philosophy of more vulgar apparitions, we are of opinion, that, on his own shewing, there may exist a firm belief in the reality of even these, without a belief in the immortality and separate existence of the soul; and the grounds of that belief would be, that spectral illusions, with all the impression of a terrible reality, are a specific state of disease, and have, because they must have been experienced by individuals in all ages and states of society, and all varieties of religious belief. We should therefore reverse the order of cause and effect, as stated by the author, and conclude that, putting Revelation out of the question, these apparitions might be an occasion instead of consequence of the belief in the immortality of the soul.

We may remark, in passing, that Sir Walter's share in the vulgar yet presumptuous notion, borrowed from the mythology of the Styx, that the souls of men exist, like so many ghosts or thin shades, ready to appear in human shape, if so commanded, only shews the abject thinking on the sublime subject of a future state, which, in its prevalence, infects minds even of the highest order; while both Scripture, which refuses all warrant to such low conceptions, by declaring that "it is not given to us to know what we shall be," and sound philosophy, leave us in total ignorance of that which is beyond human ken, the *modus existendi* of immortality:—"that which eye hath not seen, nor ear heard, nor hath it entered into the heart of man to conceive."

We think the author just as unfortunate in his account of the *causes* of spectral illusions themselves,—as *illusions* sufficiently real,—to which, exclusively he confines the remainder, indeed, almost the whole of this, his introductory and philosophical chapter.

First, According to the author, enthusiastic feelings of an impressive and solemn nature, such as recent bereavement of beloved friends, or the still darker case of murder committed; in other words, "the *imagination*, favoured by circumstances, *has power to summon up to the organ of sight*, spectres which only exist in the mind of those by whom their appearance is witnessed."

It must be evident to every one, that the only part of this most vague theory which is unquestionable, is, that the apparitions are unreal; but it is of the very essence of that unsatisfactory vagueness, which has hitherto been called philosophy, to say that the *imagination* summons up spectres to the organ of sight; for, as to the proximate cause, we are left here just as wise as we were.

Secondly, There follows an exceedingly confused allusion, or it is little more, to Professor Stewart's utterly gratuitous

theory of spectres,—that they are essentially dreams, which come at that point between sleeping and waking (how did Mr Stewart know this?), when the individual is really asleep, but believes himself awake, and is the sport of a sort of lively dream. We answer, that such dreams may create a belief in the dreamer that a spectre appeared to him, but will never explain the spectral illusions of broad-waking experience, of which Mr Stewart seemed to have no knowledge whatever. From this, as an explanation of spectres, Sir Walter glides off, as is often his manner, into a perfectly distinct subject, namely, those coincidences which are thought to realize dreams, and all those presages founded on dreams, which in ignorant times were mistaken for revelations from Heaven.

Thirdly, “Somnambulism and *other* nocturnal deceptions, frequently lend their aid to the formation of such *phantasmata*, as are formed in this middle state between sleeping and waking,”—and an instance of a sleep-walking sailor seeing a ghost is given. Now, it happens, that the somnambulist is just as much and as really asleep as any other dreamer, only superadding the power of locomotion, the result of a power in the brain, in most cases fortunately suspended in sleep, and sadly struggled with in nightmare. The spectres of somnambulism are therefore not in question, for they are only dreams; besides, there are many somnambulists as well as other dreamers, who do not see spectres, or, seeing them, believe in their reality.

Fourthly, The spectre of Brutus is cited, and explained most unsatisfactorily, by the vagueness of a state of eager anxiety or excited exertion, the recollection of Cæsar’s murder, and the doubts and fears of the impending battle of Philippi. These feelings may have led remotely to a spectral apparition, which, of course, was not seen by any one but Brutus himself; but, if it cannot be denied that such feelings do not always produce spectral visions, on the contrary, do so very rarely, it is plain, that, by citing the case of Brutus in the manner he has done, the author has not arrived at what alone can be called the *cause* of these illusions, namely, that which must necessarily produce them in all cases where it is present and operating.

Fifthly, The instances of whole armies believing that they have seen gods and saints fighting for them, prove nothing. These are only examples of weak credulity, when the cry is raised for a purpose; and the victory is won, as Sir Walter himself says, before the mistake, or rather the trick, is discovered. “It is a disposition,” says the author, “to see as much of the supernatural as is seen by others around, or, in other words, to trust to the eyes of others rather than to our own.” A Castilian cavalier is mentioned, who fought in one of the Mexican battles, in which St Jago assisted, mounted on a white horse.

The cavalier firmly believed in the miraculous interposition; but honestly and naively adds, that he did not see the apparition himself;—indeed, saw another cavalier, Francisco de Morla, mounted on a *chestnut* horse, fighting in the very place where the saint was seen by others. But there was nothing in that to the excited Wonder and Veneration of the cavalier, who exclaims “Sinner that I am, what am I that I should have beheld the blessed apostle !”

Lastly, The author gets at least into the road to truth, when he proceeds to state, that it is “now universally known and admitted that there certainly exist more than one disorder known to professional men, of which one important symptom is a disposition to see visions.” This frightful disorder is not properly insanity, although it is somewhat allied to that most horrible of maladies, and may, in many constitutions, be the means of bringing it on; and although such hallucinations are proper to both. The difference, I conceive to be, that, in cases of insanity, the *mind* of the patient is principally affected, while the *senses* or *organic system* offer in vain to the lunatic their decided testimony against the fantasy of a deranged *imagination*. Perhaps the nature of this collision between a disturbed imagination and organs of sense, possessed of their usual accuracy, cannot be better described than in the embarrassment expressed by an insane patient confined in the Infirmary of Edinburgh.” Here follows the well-known anecdote of the lunatic, who, believing himself a prince, wondered that even his choicest viands tasted of oatmeal, that being his principal if not sole food. “Here, then, is one instance of actual insanity, in which the sense of taste controlled and attempted to restrain the ideal hypothesis adopted by a *deranged imagination*. But, the disorder to which I previously alluded is entirely of a *bodily* character, and consists principally in a *disease of the visual organs*, which present to the patient a set of spectres or appearances which have no actual existence. It is a disease of the *same* nature which renders many men incapable of distinguishing colours, only the patients go a step farther, and pervert the external *form* of objects. In their case, therefore, contrary to that of the maniac, it is not the *mind*, or rather the *imagination*, which imposes upon and overpowers the evidence of the senses, but the sense of seeing (or hearing) which betrays its duty, and conveys false ideas to a sane intellect !”

It is only upon the mind of a phrenologist that the accumulated errors, the sum of nonsense—we speak with personal deference—of the foregoing short passage, expands with its full and unqualified effect. It is all we have for the philosophy of the first genius of the age; and as there is no philosophy yet possessed by any of the other leading men of the age, which enables them to question it, it is lauded as absolute wisdom, which no man could have written but Sir Walter Scott! But we must not interrupt our analysis. Several learned physicians, according to the author, have assigned different causes for this malady. One of these, though it is rather the disease itself than

to cause, is the blue devil of habitual intoxication. These visited a young man of fortune, who had lived a vicious life in London, in the shape of the dancing figures of the opera; a common spectral hallucination, for we know several instances. He got rid of them by retiring to the country, but, unluckily, having ordered the London furniture to follow him, the dancing figures came with it.

There is reason to believe that such cases are numerous, and that they may perhaps arise not only from the debility of stomach brought on by excess in wine or spirits: which derangement often sensibly affects the intellect when it is so, but also because the mind becomes naturally preoccupied over by a train of fantastic visions, the consequence a frequent intoxication and is thus, like a dislocated joint, apt again to go wrong, even when a different cause occasions the derangement. It is easy to be supposed, that habitual excitement, by means of any other intoxicating drug, as opium, or its various substitutes, must expose those who practice the dangerous custom to the same inconvenience. Very frequent use of the nitrous oxide, which affects the system so strongly, and produces a short but singular state of exaltation, would probably be found to occasion this species of disorder. But there are many other causes which medical men find attended with the same symptoms, of embodying before the eyes of a patient imaginary diseases, which are visible to no one else. This persecution of spectral diseases is also found to exist, when no excesses of the patient can be alleged as the cause; owing, doubtless, to a deranged state of the mind, or nervous system."

The author introduces the case of our old friend Nicolai the Russian landholder, as commented upon by Drs Ferriar and Hibbert, and by them ascribed to depression of spirits, and neglect of nervous management, as confessed by the patient. One circumstance in Nicolai's visions is noted by Sir Walter Scott, most more valuable to the phrenologist than to himself; viz. — "After a certain time, and some use of medicine, the phantoms became less distinct in their Outline (Form), and less fixed on their position; faded, as it were, on the eye of the patient, and at length they disappeared."

Dr Hibbert, whose entire philosophy on the subject we examined five years ago (vol. i. p. 341), is greatly lauded by Sir Walter, as having "treated ingeniously, as well as philosophically, however the subject; and as having also treated it in a medical point of view, as arising from plethora, febrile and inflammatory disorders, inflammation of the brain, nervous irritability, hypochondriacal grief, and excitation from several gases." It must be obvious at every one who reflects for a moment, that the enumeration of a set of diseases, to which this symptom is only occasionally allied, can throw no light on its proximate cause. This is at best accomplished by a mere enumeration of cases,

which follows. One borrowed from Dr Gregory is, as a case, new to us, and worth our recording :—

" A patient of his, of some rank, having requested his advice, made the following extraordinary statement of his complaint. ' I am in the habit,' he said, ' of dining at five, and exactly as the hour of six arrives, I am subjected to the following painful visitation. The door of the room, even when I have been weak enough to bolt it, which I have sometimes done, flies wide open ; and an old hag, like one of those who haunted the heath of Forres, enters with a frowning and incensed countenance, and comes straight up to me with every demonstration of spite and indignation, which could characterise her who haunted the merchant Abudah, in the Oriental tale. She rushes upon me, says something, but so hastily that I cannot discover the purport, and then strikes me a severe blow with her staff. I fall from my chair in a swoon, which is of longer or shorter endurance. To the recurrence of this apparition I am daily subjected ; and such is my new and singular complaint.' "

Dr Gregory came to dine with his patient, to try whether the presence of another person would prevent the apparition ; but, as was to be expected, the hag came again, and the poor gentleman dropped back in his chair ; upon which, the physician prescribed bleeding, " satisfied that the periodical shocks arose from a tendency to apoplexy." This is not the proximate cause yet, else apoplexy would always bring apparitions.

Sir Walter adds another case, for which we also thank him ; for it is important that patients labouring under these distressing illusions should be satisfied that the disease is far from unusual. A gentleman, high in the law, was long attended by the spectre of a cat, which was succeeded by that of a gentleman-usher in a court dress, who preceded him even when he visited, but was evidently invisible to all the company but himself ; and ultimately of a skeleton, the emblem of death itself. This last apparition was visible to the unhappy narrator at the moment of stating his case to the physician ; and the latter going to stand where he was directed as the place of its presence, screened it from the patient's view, all but the head, which he said peered over the Doctor's shoulder. This occasioned a movement of alarm in the latter, before he could recollect himself ! The unhappy patient, in the full knowledge of the apparition being unreal, sunk under its persevering persecution, and died. Sir Walter continues :—

" Having added these two remarkable instances to the general train of similar facts quoted by Ferriar, Hibbert, and *other* writers, who have *more recently* considered the subject *, there can, we think, be

* We marvel if our humble selves are here meant ; for we have given greatly more instructive examples than either Hibbert or Ferriar ; and that more recently.

its cause, is the blue devils of habitual intoxication. These visited a young man of fortune, who had lived a vicious life in London, in the shape of the dancing figures of the opera; a common spectral apparition, for we know several instances. He got quit of them by retiring to the country, but, unluckily, having ordered the London furniture to follow him, the dancing figures came with it.

"There is reason to believe that such cases are numerous, and that they may perhaps arise not only from the *debility of stomach* brought on by excess in wine or spirits; which derangement *often sensibly affects the eyes and sense of sight*, but also because the *mind* becomes habitually predominated over by a train of fantastic visions, the consequence of frequent intoxication; and is thus, like a dislocated joint, apt again to go wrong, even when a different cause occasions the derangement. It is easy to be supposed, that habitual excitement, by means of any other intoxicating drug, as opium, or its various substitutes, must expose those who practise the dangerous custom to the same inconvenience. Very frequent use of the nitrous oxide, which affects the senses so strongly, and produces a short but singular state of ecstasy, would probably be found to occasion this species of disorder. But there are many other causes which medical men find attended with the same symptom, of embodying before the eyes of a patient imaginary illusions, which are visible to no one else. This persecution of spectral illusions is also found to exist, when no excesses of the patient can be alleged as the cause; owing, doubtless, to a deranged state of the blood or nervous system."

The author introduces the case of our old friend Nicolai the Berlin bookseller, as commented upon by Drs Ferriar and Hibbert, and by them imputed to depression of spirits, and neglect of periodical bloodletting, as confessed by the patient. One circumstance in Mons. Nicolai's visions is noted by Sir Walter Scott, much more valuable to the phrenologist than to himself, viz.:—"After a certain time, and some use of medicine, the phantoms became *less distinct in their Outline* (Form), and *less vivid in their Colouring*; faded, as it were, on the eye of the patient, and at length totally disappeared."

Dr Hibbert, whose crude philosophy on the subject we exposed five years ago, (vol. i. p. 541), is greatly lauded by Sir Walter, as having "most ingeniously, as well as philosophically, handled this subject; and as having also treated it in a medical point of view, as arising from plethora, febrile and inflammatory disorders, inflammation of the brain, nervous irritability, hypochondria, gout, and excitation from several gases." It must be obvious to every one who reflects for a moment, that the enumeration of a set of diseases, to which this symptom is only *sometimes* allied, can throw no light on its proximate cause. This is as little accomplished by a mere enumeration of cases,

which follows. One borrowed from Dr Gregory is, as a case, new to us, and worth our recording :—

“ A patient of his, of some rank, having requested his advice, made the following extraordinary statement of his complaint. ‘ I am in the habit,’ he said, ‘ of dining at five, and exactly as the hour of six arrives, I am subjected to the following painful visitation: The door of the room, even when I have been weak enough to bolt it, which I have sometimes done, flies wide open; and an old hag, like one of those who haunted the heath of Forres, enters with a frowning and incensed countenance, and comes straight up to me with every demonstration of spite and indignation, which could characterise her who haunted the merchant Abudah, in the Oriental tale. She rushes upon me, says something, but so hastily that I cannot discover the purport, and then strikes me a severe blow with her staff. I fall from my chair in a swoon, which is of longer or shorter endurance. To the recurrence of this apparition I am daily subjected; and such is my new and singular complaint.’ ”

Dr Gregory came to dine with his patient, to try whether the presence of another person would prevent the apparition; but, as was to be expected, the hag came again, and the poor gentleman dropped back in his chair; upon which, the physician prescribed bleeding, “ satisfied that the periodical shocks arose from a tendency to apoplexy.” This is not the proximate cause yet, else apoplexy would always bring apparitions.

Sir Walter adds another case, for which we also thank him; for it is important that patients labouring under these distressing illusions should be satisfied that the disease is far from unusual. A gentleman, high in the law, was long attended by the spectre of a cat, which was succeeded by that of a gentleman-usher in a court dress, who preceded him even when he visited, but was evidently invisible to all the company but himself; and ultimately of a skeleton, the emblem of death itself. This last apparition was visible to the unhappy narrator at the moment of stating his case to the physician; and the latter going to stand where he was directed as the place of its presence, screened it from the patient's view, all but the head, which he said peered over the Doctor's shoulder. This occasioned a movement of alarm in the latter, before he could recollect himself! The unhappy patient, in the full knowledge of the apparition being unreal, sunk under its persevering persecution, and died. Sir Walter continues :—

“ Having added these two remarkable instances to the general train of similar facts quoted by Ferriar, Hibbert, and other writers, who have more recently considered the subject*, there can, we think, be

* We marvel if our humble selves are here meant; for we have given greatly more instructive examples than either Hibbert or Ferriar; and that more recently.

little doubt of the proposition, that *the external organs* may, from various causes, become so much deranged as to make false representations to the *mind*; and that, in such cases, men really *see* the empty and false forms, and hear the ideal sounds, which, in a more primitive state of society, are naturally enough referred to the action of demons or disembodied spirits."

He then propounds, what is very true, that these apparitions may be occasional as well as habitual, and may even, with all the impression on the ignorant of a visit from the other world, appear but once, as in the case of Brutus, and on some great occasion. Of these he gives some instances, which are well known; such as the apparition of Maupertuis to M. Gleditsch, in the hall of the academy of Berlin; the apparition of a deceased friend to a Captain C——, a catholic; and, what is still more interesting, one of Lord Byron to "a literary friend," evidently the narrator himself. These sudden apparitions, Sir Walter rightly considers as more likely to be taken for glimpses of a world of spirits, than when their chronic continuation, as it may be called, gives the sufferer time to trace them to bodily disease, producing illusions which the author perseveres in erroneously concluding to be *optical*. Indeed, he goes on to show how the other senses may be deceived; as hearing, when the apparitions speak; and touch, when they strike, or grasp with a cold hand. He sums up the whole argument, by holding it demonstrated, that "sometimes our violent and inordinate passions, originating in sorrow for our friends, remorse for our crimes, our eagerness of patriotism, or our deep sense of devotion, these, or other violent excitements of a moral character, in the visions of the night, or the rapt ecstasy of the day, persuade us that we witness, with our eyes and ears, an actual instance of that supernatural communication, the possibility of which cannot be denied."

This, it will be observed, is what Sir Walter calls the imagination deceiving the senses. But at other times, he says, it is the reverse, for "the corporeal organs impose upon the mind, while the eye and the ear diseased, deranged, or misled, convey false impressions to the patient."

Such is the philosophy which, we would venture any odds, will be taken as perfectly satisfactory by "the great in literature and science," just because they have nothing better to put in its stead. We, the "small authors," as we have been styled, are not so easily satisfied; and even had we not ourselves given several years ago a very different explanation of spectral illusions, we should have easily shewn Sir Walter's to be inconsistent and absurd. We should have dismissed at once all pretence of aid from what he calls the *possibility* of the appearance of real, independently-existing spectres, and the

spirits or souls of men, as a puerile assumption of knowledge of the mode and manner of man's existence after death, and moreover, as inferring a miracle, a way in which the Creator does not manifest his ordinary providence. And as to spectral illusions, which, although unreal, have been seen, we should have said that both of the author's explanations are erroneous. *First*, because it is an unproved assumption, that what are vaguely called the *imagination*, or the *passions*, or the *mind*, can "persuade the eyes and ears that they see and hear what does not exist; and, *secondly*, because optical, or auricular, or tactual, deceptions, can only be produced by real external objects—the eyes, ears, and hands, having no power but to transmit to the brain the impressions made upon them by what, in one modification or another, exists externally. The eye is a mere medium or channel, like the lens of a pair of spectacles, and is just as little capable of transmitting to the mind an impression which has never been made upon it by an external object, as that lens. Optical illusions must have a real basis. For example, a straight rod is seen by the eye crooked in the water; but an actual rod exists. The voice of the famous invisible girl, seemed to come from the ball suspended in the middle of the apparatus; but a real female spoke, though she was not in the ball. And when we feel a pea double, by rolling it under two fingers crossed, there is still an actual pea to create the sense of touch at all. But to settle this point at once, the instances are numerous where the apparitions were equally present whether the eyes were open or shut. Illusions of sense are, therefore, out of the question, unless something *external* be admitted, which it is *not* by Sir Walter Scott himself; the only truth in his system.

We think it important, by way of contrast, to remind our readers of the simple and beautiful *rationale* furnished by Phrenology, which we published five years ago; and of the proofs which we have subsequently adduced that that *rationale* is right.

In answer to Dr Hibbert's fancies, we stated, (vol. i. page 547) :—

"The brain consists of a congeries of organs, each of which manifests a particular power of the mind. Among these organs, one serves to perceive Form, another Colour, a third Size, while other and *distinct* faculties and organs experience emotions, and reflect. Each faculty being active, produces the special kind of ideas which it is fitted to form; and each may become active by an *internal* stimulus of its organ. The organs may be excited by an unusual influx of blood into the vessels which supply them, by inflammation, or by nervous irritation. If the organs of Form, Colouring, and Size, were stimulated into excessive activity by any of these causes, the mind would be pre-

little doubt of the proposition, that *the external organs* may, from various causes, become so much deranged as to make false representations to the *mind*; and that, in such cases, men really *see* the empty and false forms, and hear the ideal sounds, which, in a more primitive state of society, are naturally enough referred to the action of demons or disembodied spirits."

He then propounds, what is very true, that these apparitions may be occasional as well as habitual, and may even, with all the impression on the ignorant of a visit from the other world, appear but once, as in the case of Brutus, and on some great occasion. Of these he gives some instances, which are well known; such as the apparition of Maupertuis to M. Gleditsch, in the hall of the academy of Berlin; the apparition of a deceased friend to a Captain C——, a catholic; and, what is still more interesting, one of Lord Byron to "a literary friend," evidently the narrator himself. These sudden apparitions, Sir Walter rightly considers as more likely to be taken for glimpses of a world of spirits, than when their chronic continuation, as it may be called, gives the sufferer time to trace them to bodily disease, producing illusions which the author perseveres in erroneously concluding to be *optical*. Indeed, he goes on to show how the other senses may be deceived; as hearing, when the apparitions speak; and touch, when they strike, or grasp with a cold hand. He sums up the whole argument, by holding it demonstrated, that "sometimes our violent and inordinate passions, originating in sorrow for our friends, remorse for our crimes, our eagerness of patriotism, or our deep sense of devotion, these, or other violent excitements of a moral character, in the visions of the night, or the rapt ecstasy of the day, persuade us that we witness, with our eyes and ears, an actual instance of that supernatural communication, the possibility of which cannot be denied."

This, it will be observed, is what Sir Walter calls the imagination deceiving the senses. But at other times, he says, it is the reverse, for "the corporeal organs impose upon the mind, while the eye and the ear diseased, deranged, or misled, convey false impressions to the patient."

Such is the philosophy which, we would venture any odds, will be taken as perfectly satisfactory by "the great in literature and science," just because they have nothing better to put in its stead. We, the "small authors," as we have been styled, are not so easily satisfied; and even had we not ourselves given several years ago a very different explanation of spectral illusions, we should have easily shewn Sir Walter's to be inconsistent and absurd. We should have dismissed at once all pretence of aid from what he calls the *possibility* of the appearance of real, independently-existing spectres, and these, the disembodied

spirits or souls of men, as a puerile assumption of knowledge of the mode and manner of man's existence after death, and moreover, as inferring a miracle, a way in which the Creator does not manifest his ordinary providence. And as to spectral illusions, which, although unreal, have been seen, we should have said that both of the author's explanations are erroneous. *First*, because it is an unproved assumption, that what are vaguely called the *imagination*, or the *passions*, or the *mind*, can "persuade the eyes and ears that they see and hear what does not exist; and, *secondly*, because optical, or auricular, or tactual, deceptions, can only be produced by real external objects—the eyes, ears, and hands, having no power but to transmit to the brain the impressions made upon them by what, in one modification or another, exists externally. The eye is a mere medium or channel, like the lens of a pair of spectacles, and is just as little capable of transmitting to the mind an impression which has never been made upon it by an external object, as that lens. Optical illusions must have a real basis. For example, a straight rod is seen by the eye crooked in the water; but an actual rod exists. The voice of the famous invisible girl, seemed to come from the ball suspended in the middle of the apparatus; but a real female spoke, though she was not in the ball. And when we feel a pea double, by rolling it under two fingers crossed, there is still an actual pea to create the sense of touch at all. But to settle this point at once, the instances are numerous where the apparitions were equally present whether the eyes were open or shut. Illusions of sense are, therefore, out of the question, unless something *external* be admitted, which it is *not* by Sir Walter Scott himself; the only truth in his system.

We think it important, by way of contrast, to remind our readers of the simple and beautiful *rationale* furnished by Phrenology, which we published five years ago; and of the proofs which we have subsequently adduced that that *rationale* is right.

In answer to Dr Hibbert's fancies, we stated, (vol. i. page 547):—

"The brain consists of a congeries of organs, each of which manifests a particular power of the mind. Among these organs, one serves to perceive Form, another Colour, a third Size, while other and *distinct* faculties and organs experience emotions, and reflect. Each faculty being active, produces the special kind of ideas which it is fitted to form; and each may become active by an *internal* stimulus of its organ. The organs may be excited by an unusual influx of blood into the vessels which supply them, by inflammation, or by nervous irritation. If the organs of Form, Colouring, and Size, were stimulated into excessive activity by any of these causes, the mind would be pre-

sented with the kind of conceptions which each of them, by its natural constitution, is fitted to produce; or, in other words, forms, invested with the attributes of colour and magnitude, would be presented involuntarily to the mind. If the organs of the reflective faculties did not participate in the affection, their functions would not be disturbed, and the mind would feel and reflect in a state of perfect sanity. It is almost unnecessary to point out how completely this theory accords with, and explains, the foregoing phenomena; the most striking feature in all of the cases having been, that the mental disease extended only to particular kinds of conceptions, and that the other functions of the mind remained unaffected. This indicates irresistibly that there must be distinct organs, by means of which different mental operations are accomplished; for if the organ of mind were single, it is against all logic to suppose that it can be both deranged and sound at the same time."

To this we added Mr Combe's opinions from his *Elements*, also that of Gall and Spurzheim, that Wonder, or *Surnaturalité*, has influence in leading to the *belief* of supernatural appearances, and, when extremely exalted, would stimulate the *knowing faculties* to conceive such appearances; but these faculties must themselves be excited, actually to have the perceptions. Of vision-seers with large Wonder we gave three instances, in one of which *there was pain in the very spot*.

The above explanation has been in print for five years. A few months afterwards, it was followed up (vol. ii. p. 290) with the instructive case of Miss S. L., who saw as many visions, both of the living and the dead, as all the instances of Ferriar, Hibbert, and Sir Walter Scott, put together; and who, without having an idea of the seats of the organs, pointed to Form, Size, Colour, Order, Number, Sound, and Wonder, as the points of the head where she experienced the most acute and pointed pain when her spectres appeared to her. Nay, felt these pains successively,—first in Form, when her figures were mere forms, colourless like cobweb; then in Colour, when they *gradually*, from fainter to stronger, assumed the quality of colour; and in Size, when they varied from gigantic to miniature, &c.; the converse of Nicolai's waning figures, which became less distinct, by degrees, in form and colour.

To these powerful facts we added, some time afterwards, (vol. v. p. 210, 319, and 430, and vol. vi. p. 260), four additional cases, two without and two with the important accompaniment of pain in the region of the organs which perceive form, colour, size, &c. The first was the case of a member of the English bar, whose visitant was a fair lady, in white of course, for some time very pleasing, but ultimately as disgusting, from his having seen a dissection of a half decayed body, which was ever after shockingly mingled with the form and features of his

"white lady." This gentleman, like Miss S. L., was much relieved by assuming an erect posture, which probably diminished the rush of blood to the forehead. The next case is that of Mrs D., who had many of the visitations experienced by Miss S. L., together with some of the sensations described as those of Mr John Hunter of London, and the opium eater, (vol. ii. pp. 302, and 426-8.) "Mrs D. then described the pain which accompanied her illusions; viz. acute pain in *the upper part or root of the nose*, the seat of the organ of Form, and *all along the eye-brows*, which takes in Individuality, Size, Weight, Colouring, Order, and Number." This lady suffered at the time under puerperal fever; and we are assured by medical men that such illusions are not uncommon in that disease. The third case, one furnished by Mr Levison of Hull, was that of a retired tradesman, who was visited sometimes by a set of agreeable, and sometimes by a party of ugly and demon-like figures: He possessed the singular and unique power, as far as we have heard, of calling up the agreeable, and dismissing, or, as he called it, *starting* the unpleasant spectres. Mr Levison asked him whether it made any difference whether he opened or shut his eyes, to which he answered that it made none. This was true also of Miss S. L., which, of itself, at once puts an end to all idea of optical illusion. Mr Levison farther asked him, whether he felt pain when his apparitions came, when he answered, "that every time before he experienced this peculiar power of seeing figures, he invariably felt pain *in and between his eyes, and, in short, all over the eyebrows.*" The last case mentioned was that of a patient of Dr Andrew Combe's, who was greatly troubled by a disagreeable noisy Frenchwoman, with a red cap on her head, who sat at the foot of his bed, sometimes grinning at him and screaming, and sometimes singing pleasantly enough. He very seriously asked Dr Combe if he could not use his influence with the proper authorities to have her removed.

The valuable instances where pain is present produce a two-fold demonstration; *first*, that, in the region of the eyebrows, are situated the organs by means of which external objects are perceived; and, *secondly*, that these organs are capable of performing their specific functions, in consequence of activity from internal excitement; in other words, of experiencing spectral illusions, and those other deceptions of perverted equilibrium, &c. under which Mr J. Hunter and the opium eater so severely suffered. On conversing with medical practitioners, we find that there are few of them who have not met with instances—some of them with many—of this specific disease of spectral apparitions; and one, who is a phrenologist, has assured us that, knowing the morbid excitement to exist in the superorbital

sented with the kind of conceptions which each of them, by its natural constitution, is fitted to produce; or, in other words, forms, invested with the attributes of colour and magnitude, would be presented involuntarily to the mind. If the organs of the reflective faculties did not participate in the affection, their functions would not be disturbed, and the mind would feel and reflect in a state of perfect sanity. It is almost unnecessary to point out how completely this theory accords with, and explains, the foregoing phenomena; the most striking feature in all of the cases having been, that the mental disease extended only to particular kinds of conceptions, and that the other functions of the mind remained unaffected. This indicates irresistibly that there must be distinct organs, by means of which different mental operations are accomplished; for if the organ of mind were single, it is against all logic to suppose that it can be both deranged and sound at the same time."

To this we added Mr Combe's opinions from his *Elements*, also that of Gall and Spurzheim, that Wonder, or *Surnaturalité*, has influence in leading to the *belief* of supernatural appearances, and, when extremely exalted, would stimulate the *knowing faculties* to conceive such appearances; but these faculties must themselves be excited, actually to have the perceptions. Of vision-seers with large Wonder we gave three instances, in one of which *there was pain in the very spot*.

The above explanation has been in print for five years. A few months afterwards, it was followed up (vol. ii. p. 290) with the instructive case of Miss S. L., who saw as many visions, both of the living and the dead, as all the instances of Ferriar, Hibbert, and Sir Walter Scott, put together; and who, without having an idea of the seats of the organs, pointed to Form, Size, Colour, Order, Number, Sound, and Wonder, as the points of the head where she experienced the most acute and pointed pain when her spectres appeared to her. Nay, felt these pains successively,—first in Form, when her figures were mere forms, colourless like cobweb; then in Colour, when they *gradually*, from fainter to stronger, assumed the quality of colour; and in Size, when they varied from gigantic to miniature, &c.; the converse of Nicolai's waning figures, which became less distinct, by degrees, in form and colour.

To these powerful facts we added, some time afterwards, (vol. v. p. 210, 319, and 430, and vol. vi. p. 260), four additional cases, two without and two with the important accompaniment of pain in the region of the organs which perceive form, colour, size, &c. The first was the case of a member of the English bar, whose visitant was a fair lady, in white of course, for some time very pleasing, but ultimately as disgusting, from his having seen a dissection of a half decayed body, which was ever after shockingly mingled with the form and features of his

"white lady." This gentleman, like Miss S. L., was much relieved by assuming an erect posture, which probably diminished the rush of blood to the forehead. The next case is that of Mrs D., who had many of the visitations experienced by Miss S. L., together with some of the sensations described as those of Mr John Hunter of London, and the opium eater, (vol. ii. pp. 302, and 426-8.) "Mrs D. then described the pain which accompanied her illusions; viz. acute pain in *the upper part or root of the nose*, the seat of the organ of Form, and *all along the eye-brows*, which takes in Individuality, Size, Weight, Colouring, Order, and Number." This lady suffered at the time under puerperal fever; and we are assured by medical men that such illusions are not uncommon in that disease. The third case, one furnished by Mr Levison of Hull, was that of a retired tradesman, who was visited sometimes by a set of agreeable, and sometimes by a party of ugly and demon-like figures. He possessed the singular and unique power, as far as we have heard, of calling up the agreeable, and dismissing, or, as he called it, *starting* the unpleasant spectres. Mr Levison asked him whether it made any difference whether he opened or shut his eyes, to which he answered that it made none. This was true also of Miss S. L., which, of itself, at once puts an end to all idea of optical illusion. Mr Levison farther asked him, whether he felt pain when his apparitions came, when he answered, "that every time before he experienced this peculiar power of seeing figures, he invariably felt pain *in and between his eyes, and, in short, all over the eyebrows*." The last case mentioned was that of a patient of Dr Andrew Combe's, who was greatly troubled by a disagreeable noisy Frenchwoman, with a red cap on her head, who sat at the foot of his bed, sometimes grinning at him and screaming, and sometimes singing pleasantly enough. He very seriously asked Dr Combe if he could not use his influence with the proper authorities to have her removed.

The valuable instances where pain is present produce a two-fold demonstration; *first*, that, in the region of the eyebrows, are situated the organs by means of which external objects are perceived; and, *secondly*, that these organs are capable of performing their specific functions, in consequence of activity from internal excitement; in other words, of experiencing spectral illusions, and those other deceptions of perverted equilibrium, &c. under which Mr J. Hunter and the opium eater so severely suffered. On conversing with medical practitioners, we find that there are few of them who have not met with instances—some of them with many—of this specific disease of spectral apparitions; and one, who is a phrenologist, has assured us that, knowing the morbid excitement to exist in the superorbital

brain, he has banished the spectres by producing discharge immediately over the eyebrows*.

We have resorted to the rather unusual course of quoting from our former articles, in order to bring into a focus the simple and satisfactory philosophy of apparitions which Phrenology had arrived at years before Sir Walter Scott girded his loins to settle the question, "in a manner that none but himself could have achieved!" The exhibition which he has made is just one of those "judgments," with which Nature unsparingly visits all who set themselves against truth. She has no respect for the errors of the great, or the follies of the wise; and while she continued to smile upon this truly gifted man, while shining in the sphere of accordance with her unbending laws, she meets him with a frown when she finds him out of his orbit, and wandering in a vain attempt to oppose her resistless course; in which attempt all real greatness must vanish. Like the sage who said, "Come with me and see with how small a portion of wisdom mankind are governed," we would say, Come with us and see what a destitution of sound philosophy is compatible with a place among "the great in literature and science," and, "in the present state of human knowledge," suffices to add the highest philosophical to the highest literary reputation!

ARTICLE II.

A SKETCH OF THE LIFE OF JAMES C. B. HAWKINS, Illustrative of a Cast presented to the London Phrenological Society. Read April 19. 1830, by JOHN ISAAC HAWKINS.

JAMES CHALMERS, the youngest son of a serjeant in the Royal Artillery, was, on the death of his parents, adopted by me and my wife, and we gave the child the additional names of Burgess Hawkins, with the intention of bringing him up in the belief that we were his real parents, and he was generally called James Hawkins.

It appears that Chalmers, by a life of industry and frugality, had saved a considerable sum of money, which he was induced to trust into the hands of the notorious Sir Gregor Macgregor, soi-disant Cacique of Poyais, and received Poyais Bank-notes

* Dr Abercrombie, in his recent work on the Mind, has narrated no less than fourteen examples of spectral illusions, the majority of them cases of patients of his own.

as security for the same. Chalmers, with his wife and three sons, then of about one, three, and five years old respectively, sailed, about the year 1828, in one of Macgregor's ships to Poyais, where, instead of finding a commercial bank to cash his notes, he could not even find a bank of earth to screen his family from the driving of the storm over the extended marshy plains; and the whole five had to sit, during two entire nights of heavy rain, under the imperfect shelter of a single umbrella. The hardships which they suffered, in common with numerous other deluded families, brought on diseases, which terminated the lives of the parents on board the ship in which the distressed family were returning home. The youngest child James, the subject of this sketch, was at the time reduced by dysentery nearly to death. A common sailor, named John Paxton, took the helpless infant to his berth; washed it, cut up his own shirts and made clothes for it, gave it medicines, nursed it, and fed it for six weeks, till the ship arrived in the port of London.

The destitute condition of the three orphans was publicly stated before the Lord Mayor, and a subscription set on foot for their support. On seeing the case mentioned in the newspapers, I felt a strong impulse on my mind to go and adopt the youngest of the three, and bring it up as my own. I applied to the gentlemen that had the management of the subscription; and, after much unaccountable difficulty, during ten months, succeeded in rescuing the child from the workhouse, where it was on the point of being sent, on account of the subscription fund having been nearly expended.

James was about two years and a half old when I took him home; he was universally noticed by my friends as remarkably intelligent for his age. I immediately commenced teaching him the alphabet, but in several weeks he made very little progress in learning the names and forms of the letters. After wasting much time in this fruitless endeavour, and wondering that so very intelligent a child should yet be so dull, I pondered the subject well, and saw the gross absurdity of attempting to teach a child the letters, independently of their use, and concluded that the alphabet ought to be placed at the end, rather than the beginning, of the primer. I then began at once to spell and read to him, without requiring him to commit either letters or words to memory, but directed him to look at that part of the book to which I pointed, and repeat after me. From that moment, his progress in learning was so rapid, that, in a few months, when little more than three years of age, he would take such words as Nebuchadnezzar, Belshazzar, &c. and spell them for mere amusement; and, in a few months more, when

only about three years and a half old, would read the historical parts of the Bible, with so just a feeling of the sense, that he generally placed the emphasis in the right place, and rarely had to spell a word, however long or difficult. Before he was four years old, he knew the names, characters, and qualities of almost every tree, plant, and weed in my garden, and delighted in plucking the weeds as fast as they appeared; and so great was his discrimination, that he was not known but once to take up a plant instead of a weed. At four years old, he could readily repeat the botanical names of the twenty-four classes of Linnæus, and frequently determine the class and order of a plant, on inspecting the fructification. At four years and a half old, he knew the names and figures of numerous geometrical solids, and took delight in repeating the most difficult names, such as Bipyramidal, Dodecahedron, and Rhomboidohedron. At this time also he was well acquainted with the natural history of animals, and would readily and copiously state the habits, climate, figure, colour, or food of almost any animal named to him. Before he was five years old he knew the characteristics of a great variety of minerals; and at five was well acquainted with various constellations of the heavens, and could, at a glance, distinguish the planets from the fixed stars, and the principal planets from each other. In chemistry, too, he could tell the constituents of several substances, and was fond of inquiring the chemical composition of almost every thing that came before his notice; and, when once told, he did not easily forget. At five years and a half old, he pressed to be made acquainted with the structure of the human body, and soon learned the Greek names and uses of numerous bones, and acquired extensive notions respecting the muscles, tendons, arteries, veins, and other parts. About this time, he met with some mythological notices, in a little book of arts and sciences, and eagerly enquired the history of various heathen gods and heroes of antiquity. He learned, in little more than an hour, the names of the thirty-five phrenological organs of the brain; and, in a day or two afterwards, from studying a marked bust, could point out the localities of the organs on a head with surprising exactness. He made great proficiency in English grammar, and knew much of the Latin language, and somewhat of the French. His favourite playthings were carpenters' tools, and he would amuse himself, for many hours together, in making rude boxes and boats; and, when a penny was given to him, would more frequently send to the ironmonger's for nails, than to the pastry-cook's or fruiterer's for any of their dainties.

Business calling me to Germany, I determined to take the child with me, for the sake of continuing my care of his educa-

tion. He was in such ecstasies at the thoughts of seeing the sea, ships, high mountains, and the ruins of antiquity, that he took leave of his adopted mother without a tear; yet he loved her with as perfect a filial affection as any child ever felt for a real mother, for he had no suspicion of her being otherwise to him.

Upon our going on board a steam-packet on the Thames, and being surrounded by the shipping, the effect of the novel scene on his young mind was exceedingly interesting. He asked a multitude of questions as to the uses of the various parts of the vessels, and their appendages. On observing the first anchor, he knew it from having seen pictures of it in books, and remarked that the anchor represented Hope. His insatiable curiosity to know the names and uses of every thing he saw, flagged not during our passage from London to the North Sea, where we were overtaken by night. His questions at sea were quite of a philosophic nature; as, "Why are the tops of the waves white, while the rest is green? Why do people print in books what is not true? I have read that the sea is blue, but I see that it is green." At Rotterdam our lodgings faced the river, where ships of various nations were riding at anchor. The boy stood at the window for hours together, and made pertinent remarks on the forms and proportions of the vessels. On first reaching the celebrated scenery on the Rhine, between Cologne and Mayence, he was somewhat disappointed. The mountains were not so high as he had imagined; but still he evidently felt the sublimity of the picturesque views by which we were surrounded. Ancient ruins on the tops of lofty rocks, drew forth expressions of admiration of the daring spirit that loved to dwell in such dangerous places.

Upon our arrival in Vienna, where we were to remain a while, he began to make models of masted vessels; and it was surprising what accurate views of proportions he had acquired, in one day in the Thames, and in two days at Rotterdam. In a few weeks, when only about six years old, he finished a fair proportioned sloop, a brig, a ship, and a steam-packet, in which he fixed the masts at their proper distances, quite upright, when seen endwise of the hull, and leaning at a proper angle towards the stern. He cut out the sails, hemmed their edges, sewed them to the yards, and hoisted them with running rigging; made anchors of iron-wire, hammered and filed into figure, and chain-cables of several hundred links, and never forgot a gallant streamer at the top of each mast. Ship-building continued to be his most favourite amusement, during our stay of eighteen months at Vienna. And at about seven years of age,

he finished a stately model of a man-of-war of 150 guns, all made of brass tubes of his own forming. Each of the masts was composed of three pieces, put together as lower-mast, top-mast, and top-gallant-mast. There were regular round-tops and cross-trees, stays, shrouds, and bulwarks; nineteen sails, all capable of being hoisted and lowered; an acting capstan, windlass, four anchors, chain and hemp cables, with rudder properly hung, and various other parts which he had learnt from observation, reading, and inquiry. He was employed upon this vessel almost daily for three or four months. He constructed models of various other things, as of a grand piano-forte of pasteboard, and painted it in a good imitation of black rosewood. A harp, also of pasteboard, painted in imitation of the different kinds of wood he had seen in a real harp, and strung with silver-wire. Numerous models of swords, of brass and iron wire, hammered to the figures of the ancient knights' sword, the Turkish scimitar, and the swords of the various regiments in the Austrian service. With the peculiar costume of each regiment he was well acquainted, from his own observations. He made the scabbards of paper, united with gum, and painted with correctness.

Soon after he was six years old, I took him to the theatre to see a pantomime; he was highly amused during the representation. Upon leaving the theatre, he dwelt much on the scenery and costumes of the various countries represented, and scarcely mentioned the buffoonery. On seeing another pantomime of a very superior kind, he noticed with enthusiasm the moral instruction conveyed by the piece.

Statuary always drew his attention strongly; but on taking him to see a master-piece of Canova's, "Theseus killing the Centaur," he gazed with rapture on those two figures for nearly an hour; and begged earnestly that I would take him to see them another day, which I did, and his enthusiasm was scarcely less than at the first time, and he asked for and obtained a third visit. After the second visit, I took him to see a very splendid pantomime at the largest theatre in Vienna, with which he was very much entertained. Upon leaving the theatre, I asked him which he would prefer going to see the next day, another pantomime or Canova's marble? He answered vehemently, that he would a hundred times rather see the statuary than the pantomime, of which he then spoke with sovereign contempt, as being unworthy of comparison with that masterly production of the chisel.

The museums of natural history presented the greatest attractions for him, and it was difficult to get him away from them, even at meal times, after several hours of keen inspection.

Collections of pictures of real merit always made a strong impression upon him, and corroborated the opinion, that nature has much more to do in the formation of taste than art has. Art may cultivate and improve taste, but cannot create it.

When he was about six years and a half old, I took him to witness the performance of a serious comedy in four acts. His whole attention was rivetted to the subject, and he formed so clear a conception of the plot, that, five months afterwards, on that comedy being mentioned, he described several scenes, and repeated much of the language. I afterwards took him to see a tragedy in five acts; and here, although I was so used to the superiority of his feelings, I expected that his attention would flag before the conclusion. The contrary, however, proved to be the fact; and he appeared to feel the most intense interest to the very last, and was able, the next day, to explain several parts which my imperfect knowledge of the German language prevented my catching at the time. Wishing to observe him under a great variety of circumstances, I took him to a masquerade. Here he fell asleep in less time than was occupied on three acts of the tragedy, although three thousand people were parading the rooms in grotesque characters.

At this period, when we had resided in Vienna about a year, he spoke German like a native, and possessed a critical knowledge of the grammatical construction of the language. His tutor usually gave him lessons of double the length of boys twice his age, yet he generally learnt them by merely reading them over two or three times. He could distinguish various dialects of the German, as the Tyrolese, Swabian, Bohemian, &c.

With the view of assisting him in his study of natural history, I purchased forty or fifty figures of animals excellently carved in wood. After a day or two he divided them into two companies; the tame and the wild. The elephant he made emperor of the tame animals, and the lion king of the wild ones. He appointed field marshals, generals, colonels, captains, and others. He then occupied himself for an hour or two a day, for about three months, in making military dresses and accoutrements for all the animals. He formed a good proportioned crown of gilt-paper for the emperor, and another of silver-paper for the king. He made caps, hats, helmets, cut of pasteboard, gummed together in good shape, and painted to costume; cloaks, coats, and trowsers, of silk and cloth sewed together; boots of leather, and spurs of pasteboard painted, and in one instance, brass spurs with revolving wheels; swords,

scabbards, and a long train of etceteras, among which was a throne, under a canopy, for the emperor and empress. When all were equipped, he divulged his plan for the first time. He said that a grand battle was going to take place between the two armies. The battle lasted two days, during which time he amused himself without any playfellow, with pretended marches, counter-marches, and alternations of victory and defeat: the officers going to head-quarters for orders, and communicating the same to other officers: The emperor ordering all his attendants away while he gave his commands to the field-marshal, and a great variety of manœuvres, proving the comprehensiveness of his views. He made the fox come into the emperor's camp, as a spy, where he was taken prisoner, and put to death. The next day he made the ghost of the fox appear in the emperor's pavilion, and terrify the attendants, but it had no effect on the emperor. For the purpose of giving a death-like paleness to the ghost, he gummed a bit of very thin muslin neatly all over the face. At length the king's army was vanquished by the emperor's, and the lion became prisoner to the elephant, but was treated with royal munificence, and made an arch-duke of the empire. The day after the battle, the child said, the people must have a song of thanks to the emperor, and he sat down to compose one. When he had written two lines, I asked to look at them, and found that he had not formed any notion of accent and measure, but fancied, that the last syllable of the lines being alike, constituted verse. I explained to him the requirements of versification, and in ten minutes, he wrote two lines in very good rhythm. The whole song consisted of six lines, written in good German, the English of which literally is,

“ Our skilful emperor has won the day :
Therefore, we must sing a song of thanks to him.
We must praise our emperor,
Because there is no one elevated above him :
Our prudent emperor is our chief,
And he has given the enemy a knock in the head.”

To this song he composed a tune, possessing no musical merit ; indeed, he never evinced any musical talent. But the tune appeared to be felt as a necessary part of his drama. The word of command was given in German, during the whole of the two days' battle, although the greater part of the performance was conducted when he thought he was not observed or heard. I asked him why he spoke German so to himself ; he said he could think better in German than in English.

One day, before he was seven years old, we walked up an exceeding steep path, to the top of Leopoldsberg, a mountain near Vienna. The walk was very fatiguing, but on looking from

the top over the extensive prospect, the boy exclaimed, in a tone of rapture, "Well! this is a great reward for all our labour."

From three years old and upwards, he always exhibited a strong feeling in favour of every kind of religious exercise; and from four years old, would give out the lines of a hymn with so correct an emphasis, founded on the sense of the subject, and so totally devoid of any sing-song tones, that scarce one clergyman in a dozen could equal him. This was not the work of art, it was nature that taught him. Often, when I have said at his bed-time, "Now my dear, the next thing is to go to bed;" the child, in his peculiarly mild manner, as if feeling a repugnance to contradicting, in any form, would answer, "Not quite, papa, the Bible is to be read first." He scarcely ever forgot this or his prayers.

Although in the constant habit of hearing my injudicious friends lavishly praise him as a prodigy of the highest order, yet he was never observed to utter an expression tending to court applause. However agreeable it might be to him, he never exhibited any joy at being applauded. He attributed all the praise to the kindness of the applauder, and none to his own merits. This may be supposed to be the effect of education, but no instruction can produce such a disposition, where there is not innate modesty.

His ready obedience to my commands was very remarkable, and scarcely more than once was he known to disobey my orders. In this case, at the age of six years, he was playing with a neighbour's son, of about his own age, in an adjoining garden. I sent for him, and he did not come; I called him, and still he did not come; I then fetched him, and gave him one slight stroke on the back, with a very thin twig, the only instance of corporal punishment I ever inflicted on him, and this left no mark. He stated that the boy persuaded him to stay after he was called. On reflection, he was so sensible of his fault, and sorry for it, that he never afterwards would play with that boy, although we lived a year next door to him.

He was excessively fond of little infants, and, at seven years old, generally went, for an hour every day, to play with a child of six months old, which he nursed with a tenderness that astonished the good women of the place.

His desire of universal knowledge was most ardent, and his perseverance in the pursuit of information was like a most sanguine youth of eighteen, rather than of a child of six or seven. Indeed, for the last year of his life, he seemed to me more a philosophical companion than a child. He would, in a surprising manner, draw a chain of consequences from a single fact, evidently possessing an inward perception of the rationale of the thing; and would take notice, at a glance, of numerous

qualities and circumstances of an object, which escape the generality of observers.

When I was about leaving Vienna for London, the child said he must write a farewell letter to his sweetheart, a girl of nineteen. He sat down, and in the course of about an hour of study, he wrote twelve lines in passable German verse, of which the following is almost a literal translation. There is no addition to his meaning.

"Beloved Netti, I am going home,
But to this place in twelvemonths hope to come;
My ardent love for you has grown at length
To love of more than six or sevenfold strength;
You are my bride, and ever dear to me,
Your skin is clean and fair, from blemish free,
Your eyes are lovely, and your mouth formed fine,
Beauty and health in ev'ry look combine.
We will our children strive to multiply;
We'll teach them wisdom, elegance supply:
If we should lose them, we shall have great grief,
For of enjoyments children are the chief."

This extraordinary and most interesting child died April 2. 1829, at Munich, in Bavaria, on the journey from Vienna towards London, at the age of seven years and five months. I felt a strong desire to have a cast of the head, but had not courage enough to express that desire, being altogether among strangers, and totally unacquainted with the state of public feeling on the subject. I therefore went to the funeral at the appointed time, and was in waiting in the chapel of the burying-ground, while the minister was performing the funeral-service over another body. The sexton invited me and my party into a dissecting-room adjoining the chapel. While there, a lady of rank asked me if I would not like to take the child's heart with me? I eagerly exclaimed, Yes! and his head too, if it were allowable; the sexton said, "Oh! you may have any part you wish." In about five minutes, the minister returned to the chapel to proceed with the burial. The sexton immediately told him that my child was not to be buried that day, as it was to be dissected; the minister signified his acquiescence, in a manner that shewed the thing to be of common occurrence, and all around seemed to view me with kindly feeling, for having so readily concurred with the suggestion. A person went with me to the police-office, where I requested permission to take the head and heart of the child with me to London. The Magistrate superintended his clerk in filling up a printed blank with the particulars of my request, and waited to sign the same. On my asking for the amount of fees, I was informed that there was nothing to pay. The next day I had a cast of the head taken, a copy of which I have just now presented to the Society.

After taking the cast, the dissection was performed by a surgeon and his assistant, under the direction of two of the most eminent physicians of Munich. The physicians made out a bill of their charge for attending the dissection, which amounted to 8s. 4d. for both. The surgeon's bill mixed the charge for the dissection with that for medicines and attendances during the illness, and therefore I cannot ascertain the exact amount, but think it was about 5s. for himself and assistant.

In looking phrenologically at the head of this precocious boy, it will be seen that the moral, intellectual, and animal regions are all largely developed. The temperament was decidedly sanguine.

In the Moral Region :

Veneration is very large, and no point in the character was more striking than his adoration of the Supreme Being : his ardent affection for his supposed parents, and desire of obeying them ; his enthusiastic admiration of antiquity, and of the sublime in nature ; and, indeed, love of the superior in every thing.

Benevolence is also very large, and goodwill to all was a distinguishing trait in his character.

Firmness, too, is very large, and I never knew a child more persevering in his endeavours to obtain the objects of his pursuits.

Hope being large, came in aid of his perseverance ; both of which, combined with his sanguine temperament, led him to view obstacles to his plans with perfect contempt, and occasioned him to overcome difficulties from which a less favoured organization would have shrunk.

Imitation, large, enabled him to copy well whatever he understood, and wished to imitate.

Marvellousness or *Supernaturality*, large, was strikingly exemplified in a preference for every thing of a spiritual nature.

Justice large.

The operation of this faculty was particularly seen in his shunning the company of the boy that had induced him once to disobey his parent. The love of what is right was conspicuous in all his little transactions, and I never saw a more disinterested child.

Ideality large. The grand battle of his animals, and his early attempts at versification, evinced the influence of this feeling ; which, combined with Supernaturality, no doubt induced the episode of the fox's ghost, before mentioned.

Of his Intellectual Organs, the superior ridge is very large.

Comparison, very large, was amply confirmed by his practice of noting the resemblances of things, and often such as eluded the notice of the common observer.

Causality, very large. Almost as soon as he could speak, he began to inquire why things were so and so ; and as he grew up, would look into one science for the illustration of points in a different science. On

one occasion, when only five or six years of age, while I was explaining to him the nature of chemical attraction, he exclaimed, "Well ! now I can understand how it is that the planets are kept in their proper places by means of the attraction of gravitation."

Wis very large. The child, whose development we are now considering, was remarkable for his gaiety and love of pointed witticisms. *Eventuality*, large, gave him facility in examining and re-collecting facts. *Locality*, *Time*, and *Harmony*, moderate. There was nothing remarkable in the character in reference to these faculties. *Individuality*, very large, gave him great power in distinguishing persons and things. *Form*, *Size*, and *Weight*, very large, aided by *Imitation*, combined to give him the great power which he possessed of fashioning and adapting his means to his end. *Colour* full. He painted his helmets, caps, and scabbards, with a tolerably good imitation of the costumes intended to be represented. *Order* large. He had great pleasure in making arrangements, and generally knew where to find an article among the vast number of his playthings and tools ; yet they were sometimes in confusion. *Number* large. He possessed considerable facility in calculation, and went through the four rules of arithmetic, with a thorough understanding of them, on an application of two or three half-hours in the week during three or four months, and had made some progress in decimal fractions. *Language* large. In the cast, which was taken three days after death, the eyes are sunk deeply in the head ; but when in health, they were very prominent. The great ease with which he learned languages confirmed this development.

The Organs of the Animal Region are all largely developed.

Self-Esteem, large, but, under the control of the moral feelings, manifested itself in a dignified modesty of manner, which was particularly noticed by all that knew him ; he was never obtrusive, nor was he diffident. *The Love of Approbation*, very large, but under the same powerful control, assumed the form of the pleasure of pleasing, and gave a peculiarly fascinating address, that won the applause of every one without aiming for it. *Cautiousness* large. This faculty was conspicuous in the child from the earliest time. He scarcely ever broke a glass or a piece of crockery, and he had a nice tact in handling delicate articles. He habitually avoided dangerous places and things. *Secretiveness*, very large, was manifested in his not developing the plot of his intended battle for three months. But the abuse of this faculty never appeared in the form of deception. He was, on the contrary, most ingenuous. *Acquisitiveness* large. This faculty operated as a love of accumulating objects of inte-

rest, for the purposes of learning, and was never seen to assume the form of the love of money or of anything as mere property. *Inhabitiveness* very large. The operation was seen in the passion for ascending high mountains, and he talked much about home when abroad. *Attachment* very large. The attachment which he manifested for his supposed parents, was never exceeded by any child for real ones. *Combativeness*, moderate. He never showed any disposition to fight, yet he would contend for his point with firmness, but not with rudeness. *Destructiveness*, large; under the control of the moral feelings, this only appeared as energy, except in one instance, when he cut the leather bottoms of some chairs, without being able to assign any motive for the destructive operation. *Gustativeness* full. He was very moderate in the quantity of his food, but distinguished flavours and odours with peculiar nicety. *The Love of Young* very large. He was always delighted with the company of helpless infants. When only three years old, on an infant in arms being brought by a visitor, he has begged of his mamma to keep it always. At seven years old, he evinced much pleasure in opportunities of instructing young children. The last three lines of his love-letter show the powerful operation of this feeling. *Amativeness*, very large. The cerebellum, as will be seen in the brain itself, as well as in the skull and cast, appears to equal that of a grown person. The line in his love-letter, "We will endeavour to multiply our children," is in curious coincidence with the great size of this organ. *Amativeness* seems here subservient to his Ideality, but he never exhibited the least symptom of sexual propensity. *Constructiveness* very large. He could readily learn to execute almost anything he desired, with moderate application. Manufacturing was with him a passion, and it was painful to him to be idle.

Although his animal organs were so large, they acted in subserviency to the moral feelings, and therefore added beneficially to the character.

The weight of the brain, immediately on being taken out of the skull, and the dura mater removed, was $2\frac{1}{4}$ pounds, medicinal weight of Munich. The physicians said that it was about the usual weight of a full-grown man's brain. I am not aware of the proportion between the English and Bavarian weights. On comparing the cast of a brain in the Society's collection, No. 261, it will be seen that the child's brain must have been rather the larger of the two.

It is my intention to present the Society with a cast from the inside, and another from the outside of the skull, which, compared with the cast of the head, will form a useful series to the student of Phrenology.

JOHN ISAAC HAWKINS.

NOTE

NOTE BY THE EDITOR.

WE have no doubt that our readers have perused the foregoing affecting narrative, and distinct analysis, with interest and profit. We have not yet seen the cast of the head ; but have no reason to doubt the accuracy of the development as reported. The elements of precocity, such as that of the child Hawkins, are largeness and great activity of brain, the latter often degenerating into morbid excitement. Accordingly, the narrative reports *large brain*. It states the temperament to have been sanguine (and we presume highly nervous), but adds no symptoms of a state of bodily constitution which would, to a phrenologist's eye, indicate over activity of brain. We may farther presume that the rest of the body bore no proportion, in maturity and strength, to the head. On the fundamental principle of the science, that size of brain indicates power of character, a child, however young, exhibiting an adult's brain, will manifest an adult's mental powers. It is an observation so common as almost to have become proverbial, that precocious children are short-lived. "Too good, or too clever, or too wise to live," is a prediction too often verified not to be applied by many a foreboding yet vain parent to a prodigy of a child. Now it is the doting parent, not the precocity, that kills the child. We anticipated, before we had proceeded far with the narrative of young Hawkins, that his death would be recorded before the end of the paper ; not on the old saw, but on our knowledge of the occasion of that maxim. Almost the whole of the child's brain was kept in a constant state of premature excitement and exhausting exercise, for two or three years. Every one of the many talents which he manifested, was encouraged and drawn out to the uttermost ; from the laudable, but sadly mistaken, motive of giving such wonderful powers every facility to develop themselves ;—the kind parental guide all the time unconscious that the premature exertion of each and every talent, is but another word for the useless and hurtful expenditure of nervous influence, and the exhaustion of brain. Muscular exercise and air appear to have been neglected ; appetite, as is stated, was weak ; and early death followed. Although there was dissection of the body, there is no account of the appearances, from which to infer the cause of death ; although we trust still to get some information on this point, which, when it comes, will in all likelihood bear out our conjectures.

By a steady application of the practical physiology of Phrenology, many a precocious child might be saved. The *regime* is simple. The phrenological parent will rigidly deny himself the fatal indulgence of those feelings of pride which the exhibitions of a prodigy so naturally gratify. He will refuse to the

child's premature powers of intellect and feeling, all beyond the most moderate exercise. His chief attention will be given to the organic improvement, in body as well as brain, of his charge; by active exercise in the country, much time in the open air, plain and nutritive food, childish amusements, considerable bodily fatigue, early hours, with regular and sufficient sleep. By these means, strength to the muscular and nervous system, and consolidation to the brain, will be secured. Such a course, persevered in, would prepare the soil for a much richer return of intellectual and moral power, in the years of youth and manhood, than is ever found in the mediocrity and even inferiority of the after life of such precocious children as do survive; and bring all the powers of mind and body into the steady energy of a superior manhood, physical, moral, and intellectual.

That these are not new views, adapted to this particular case, we beg to show, by making reference to page 290 of the 6th volume of this Journal; where, in treating of mental exercise and health, the reader will find an exposition of the fatal consequences of stimulating infant precocity.

When will that epoch arrive, when the medical world shall universally take the BRAIN, as its functions are explained by Phrenology, into their calculations of health and disease! That element alone would be an incalculable advance on the practice of the blind man with his club, satirized by D'Alembert, and almost confessed by Dr Abercromby. We question if a single unphrenological physician in Germany,—nay more, in Britain,—would have dreamed of prescribing the above course of treatment for a precocious child yet in health; or imagined it within human power to avert from it that fate which their very grandmothers have declared inevitable.

ARTICLE III.

CATALOGUE, NUMERICAL AND DESCRIPTIVE, OF HEADS OF MEN AND ANIMALS, WHICH COMPOSED THE COLLECTION MADE BY THE LATE DR GALL. Transcribed by Mons. A. A. ROYER, of the Jardin des Plantes, from the Manuscript drawn up by M. le Dr Dauncey, the pupil and friend of Dr Gall.

*(Continued from page 602 of the preceding Volume *.)*

222. **P**ATHOLOGICAL PIECE; skull of a very old woman, remarkable for the change of forms resulting from the absorp-

* We promised to conclude this Catalogue in this Number; but as other matter pressed, have deferred the conclusion.

tion of a great part of the external plate, and the diploë. Gall showed it in proof of the fact, that the inequalities of the osseous case do not always depend on the greater or less development of the brain, where we meet with prominences or hollows, as might be believed when the head is covered by all its integuments; because sometimes, as in the present instance, these inequalities take place from the greater or less thickness of the external plate of the skull. Upon that subject he called the attention of medical witnesses, in criminal trials, to the fact, that persons thus formed may be killed by a slight blow on the head;—an observation which well deserves to be treasured by writers on medical jurisprudence, who have published since the numerous courses which he has delivered over Europe. But it is not believed that any of these works professedly on that subject have yet noticed it. The alteration here alluded to, is met with more particularly on the heads of old men; yet it is sometimes found in individuals of both sexes under 50 years of age. The author of this notice has had occasion to observe it in a female who is yet living, and is scarcely 40. It is so considerable in this case, that, by applying the hand, the movements of the brain are felt distinctly, as in the fontanelle of infants. The pieces in this Catalogue, Nos. 273, 281, 282, and 284, are examples of the same alteration of nutrition.

223. PATHOLOGICAL PIECE; base of the skull of a deranged person in an hospital in Paris. A pupil of the establishment brought this head to Gall for dissection of the brain, at the time that he was engraving his anatomical plates. That sagacious observer was struck with the marked disorder of the *left* hemisphere. He inquired into the symptoms manifested by the living subject; but the young man could give him no information, except that the patient was paralyzed in the *right* side, and was so when she was received into the hospital. This is another instance, like No. 213, of the alterations of the skull corresponding to those of the brain.

224. BOUDIN; skull.—This man was one of the band commanded by Peterson (No. 161), for the purpose of robbery on the highway, and in solitary houses. Boudin distinguished himself above all the rest by his cruelty, and rapacity in plundering. No other information in the notes of Gall. He showed this head in relation to the organs of Murder, *Rize*, and Robbery; remarking the feeble development of the superior sentiments and intellect, and the nullity of the organ of Benevolence.

225. UNTERBERGER, the father; skull.—This was a painter, whom Gall knew sufficiently long to acquire positive knowledge of his character and talents. Painting was not the natural taste of Unterberger, although he was able in that line also; but he

loved mechanical construction more, and was always producing inventions in that way. He had a rare perseverance in following out his ideas. Things easily made had no charms for him. He liked to exercise his powers on those which presented difficulties, and which required long application. Death cut him off in the middle of labours, for the conclusion of which a life double the length of his would have been required. Gall explained that modification of character, by the great development of the organ of Firmness, the quality which essentially constitutes men of perseverance. The organ of Mechanism is considerably developed.

226. SKULL.—Gall knew very little about the individual. He only remarked that the development showed a feeble intellect. He was said to be an eccentric person (*bizarre*). After his death, the information regarding him was the following. L. was weak-minded, easily troubled, difficult to deal with, as the least difference threw him into a fit of fury. He was observed to be very envious of the good fortune of his own family or acquaintance. He was addicted to dissembling and lying. Such an individual approaches nearly to insanity, and the bitterness of his character might depend upon an affection of the brain originating in disease. The skull presented an alteration in the interior, which gives probability to this conjecture. The organ of Cunning is largely developed.

227. THE ABBÉ LACTOTURE; skull.—This Abbé lived at Vienna, where he took refuge during the French Revolution. He was much in the best female society. He was greatly liked by them, solely on account of the little polite attentions which he paid them, and of his natural talent for ladies' works. He did not push his gallantry far, and very pretty women sometimes amused themselves by encouraging him; but on such occasions he shunned their society, and appeared to suspect their designs. He confessed that he was a stranger to the attractions of love, and was born with a natural chastity. Indeed, he was never known to have formed an intimacy with any woman, although he greatly desired to please the fair sex, and dressed himself with much care. It was said he was of neither sex; an imputation which did not offend him, but made him laugh. Gall showed the head in relation to the organ of Vanity, and the smallness of the cerebellum, the organ of Physical Love. The organ of Benevolence is considerably developed, as is that of Mechanism. Attachment in friendship is very large, and, in combination with that of Vanity, explains the Abbé's desire of society.

228. THE COUNTESS ORB; skull.—Gall knew this lady intimately. She died of a cancerous affection in the womb, after ten months' illness, and the severest sufferings. He showed the

head to refute the doctrine of those who consider certain qualities of character as depending on temperament. This woman was lymphatic in the greatest degree. Her legs were habitually swelled, her extremities always cold, and the cellular tissue very abundant. Nevertheless her qualities and faults were of the kind usually attributed to the bilious temperament, or bilious-sanguine. She was jealous in the extreme, proud, ambitious of glory to a passion, active and indefatigable in her undertakings, provided her favourite inclinations were interested, prosecuting with the utmost perseverance her designs, courageous, successful in her enterprises, quarrelsome, and always ready to strike her lover, and her servants, for faults which she thought they committed. In fine, she abandoned herself to love with ardour; and play so much engrossed her, that, even during her sufferings, she passed whole nights successively at the card-table. These are certainly manifestations which are not attributed to the lymphatic temperament. She showed much penetration, and that sagacity which belongs to women, and which looks like a peculiar instinct. Gall often confirmed these views by the cases of individuals, and the events of society. The most prominent trait in this woman's character was pride; she was jealous to excess.

229. FEMALE THIEF; skull.—Gall did not know the person. The skull was sent him by the physician of the prison of Spandau, where she died, with the following information. A woman of the town, who followed the armies from the beginning of the war, for the purpose of plundering with impunity. She had committed many thefts, and undergone punishments. She was remarkable, even among women of her own stamp, for the excessive dissoluteness of her manners, and for the rapacity and cruelty which she exercised upon soldiers left wounded on the field of battle. She was finally confined in the prison of Spandau for life. The head is remarkable for the extreme development of the organs which occasion criminal actions, while the sentiments are very weak.

230. HEAD OF A CRIMINAL; cast in plaster. — This head was sent to Gall from Caen where the individual was executed, by Dr Vimont.

231. CERACCHI, the statuary, born at Rome; skull.—Joseph Ceracchi was executed at Paris for a political crime. He was convicted of an attempt to assassinate Napoleon. He was an ultra-republican; took a very active part in the Revolution 1799, which had for its object the re-establishment of the Roman republic. Afterwards he associated himself with the conspirators of the arena to assassinate Bonaparte, then First Consul, whom they charged with the design of seizing supreme

power, and destroying liberty. Ceracchi had no personal resentment against Napoleon; and was even an admirer of his military talents. Gall pointed out in that head the size of the organ of Pride,—an invariable development in those who conspire against established authority. The organ of the *Instinct Carnassier* is likewise largely developed. Mechanism is also remarkable, and explains the talent, manifested by that statuary, in the practice of his art. He is said to have been of a very noble character, and generally esteemed by the artists who knew him, on account of his worth and passion for liberty. The head is a model of that of persons who are revolted by despotism.

232. **PATHOLOGICAL PIECE.**—The base of the skull of an old man, who died at a great age, in possession of his faculties; and who had retained his memory in great activity till the last days of his life. The skull is a little thickened without being heavy. This is a common result of senile atrophy of brain, occasioned by the mere progress of age.

233. **AN ACTOR;** skull.—The individual had become deranged by domestic misfortune, and failure in his profession. He was afflicted with great fury during the first period of his malady, but soon fell into profound melancholy, and remained for entire weeks without leaving his cell. He finally became nearly fatuous, and no longer recognised the friends whom he had most loved.

234. **HEAD,** cast from nature; presented by Dr Vimont.

235. **MILLINER;** skull.—This woman was known to Gall, as very expert in her trade. He pointed out here the considerable development of the mechanical organ, on which her reputation was founded, and which all the expert *modistes* possess. The organ of Ambition is also largely developed.

236. **VOISIN,** a murderer; skull.—This man was executed for the murder of one of his relations. It was proved before the Court of Assize, that he often complained of an irresistible propensity to commit murder, and he manifested a tendency to self-destruction to escape from that fatal propensity. He avowed that he never had any reasonable cause of hatred against the person whom he destroyed; and that it was his unfortunate disease that led him to the act. The organ of Murder has here a great development. That of Compassion is null, and the intellectual faculties are very weak. He was, in short, a person of very little intellect, as was sworn to by the workmen with whom he was employed. When under the influence of wine, he was dangerous; but he gave his companions notice of the destructive tendency which tormented him, and these often attempted to calm him, in order to prevent him from committing criminal

acts. It was then that he made attempts on his own life; and the knife was often snatched out of his hand. In showing this head to his students, Gall made them remark the great preponderance of the posterior region of the head, where the strongest animal propensities are situate.

237. Omitted in the original manuscript.

238. CRIMINAL; skull.—Individual executed at Caen; presented by Dr Vimont.

239. WURMSER, the Austrian General; skull.—He was born in Alsace, and in the Austrian service arrived at the rank of field-marshal. He commanded the Austrian army in Italy, which Bonaparte defeated. He was endowed with a prodigious courage. This was his character *par excellence*, and the organ is remarkably developed in the skull. It was in regard to this organ that Gall exhibited the head of this distinguished soldier, and made his students observe, that, if he was often beaten by the French General, it was because the latter had the advantage of him in intellect. The head of Wurmsér exhibits the organ of Attachment largely developed; and it is known that he was a model in this respect. Gall collected on that point the testimony of persons who lived with him; all agreeing that he was devoted to every one who had obtained his friendship.

240. CRIMINAL; plaster-cast.—The individual was executed at Caen. The cast sent by Dr Vimont.

241. INSANE WOMAN; skull.—She died in an hospital for the insane. Her monomania was vanity. She decked herself out in all the trappings she could collect; actosted every one who entered the hospital, and promised them her protection, whenever she should be established on the throne of France, believing herself queen. She distributed titles to all who showed her any kindness. Gall had occasion to see that mad woman when she was in her delirium; and in his lectures; when he spoke of the visit which he paid to her, he used to show the gestures and tones of voice with which she accompanied the offer of her royal favours. It was the mimicry of the purest vanity. The head, in fact, presents a large development of the organs from which arises an ambitious character. The organ of Poetry was also large. Experience has shown that all the passions are much exalted when in combination with that faculty.

242. CRIMINAL, executed at Caen, plaster-cast; sent by Dr Vimont.

243. PLASTER CAST, taken from nature, by Dr Gall, to show the absence of the organ of Colouring.

344. A PAINTER; skull.—He died in a mad-house. He had often manifested an intention of self-destruction. He was a visionary and mystic, and believed himself pursued by the

police, as a martyr, on account of his change of religion and particular creed. He chalked on the walls the punishment of several of the martyrs. Afterwards, his madness was not limited to that idea; it took a more general character, and ultimately degenerated into fatuity. The skull was heavy, indicating, what was probable, atrophy of the brain. The organs of Circumspection and Theosophy are largely developed.

245. HYDROCEPHALOUS HEAD, cast from nature, of a young man, who nevertheless enjoyed ordinary intelligence, and learned what was taught him as easily as other boys of his own age, whose brains were healthy. It was Dr Spurzheim that made these observations. Gall did not know, and had no information about, the individual. He showed the cast, to prove that there may exist a great quantity of water in the brain, without altering the functions of that organ.

246. CRIMINAL, executed at Caen; presented by Dr Vimont.

247. PLASTER CAST, from nature.—The individual was a relation of Dr Gall's. He was injured by the fall of a tile, which penetrated the brain. It was shortly after remarked, that his character was entirely altered. Before the accident, he was mild, pacific, and regular in his habits. After it, he became eccentric, quarrelsome, flying into a passion at the slightest contradiction. Gall shewed the piece to prove that it was rare that wounds in the brain were not followed, even when cured, by some change in the qualities and faculties of the individual who suffers them. He has given several examples in his large work. The brain was affected with atrophy in consequence of the deep injury; and this might be inferred from the considerable weight of the skull.

248. SKULL of an individual who was obliged to labour with his hands for subsistence, and had received no education, but in whom Gall had remarked tastes altogether extraordinary for a person of his condition in life. He loved passionately the fine arts, especially poetry. He had by heart many passages from the poets of his own country; was acquainted with, and understood well, the finest compositions of the painters and statuary, which he had seen in the museums. He was satirical, full of imagination, and of a very amorous temperament. The circumstances are not known which called forth his genius for poetry; but it is known that he did not learn to read till he was 20, being in the army; and that he was afterwards, for several years, employed in a theatre as a labourer.

249. NYMPHOMANIAC; skull.—This woman was affected with nymphomania, in consequence of unrequited love for a person in a condition of life greatly above her own. She did not die till long after she recovered her reason; but she always felt

resentment on account of the malady with which she had been attacked. The cerebellum has not more than a middling development; but the organs of Pride and Firmness are the most developed, and constituted essentially the character which she manifested.

250. PATHOLOGICAL PIECE.—Skull of an infant born hydrocephalous, and nearly without brain, which existed only in vestiges about the base of the skull. It was the first case of the kind which Gall had occasion to observe. He had before that denied the possibility of it, against the testimony of a great number of authors, as appears in his great work; but he has rectified that mistake in his smaller work on the functions of the brain.

251. BOGARR; base of the skull.—This person died at the age of 88 years, having preserved an extraordinary energy in all his faculties. The skull is not much thickened, from the atrophy of the brain being inconsiderable, and it is easy to see that that organ had a regular development.

252. FRERE DAVID; skull. (See No. 41.)—Gall shewed this head to prove how strongly the organ of Calculation is developed.

253. A MERCHANT OF VIENNA; skull.—This man was well known to Gall, who attended him as physician. He was remarkable for nothing but an extraordinary propensity for women, to which he gave himself up to excess. He became insane, and his disease was erotic monomania.

254. A TAILOR; skull.—This man was expert in his trade, but was affected with deplorable melancholy, and a propensity to suicide, which came by fits, and lasted some days only. At one time it came once a month, but with diminished intensity in the winter season, or when the air was strongly charged with electricity. They often broke out on the approach of a storm, and often when he was contradicted. He was habitually morose, apt to curse, satirical, on bad terms with his relations, and with those with whom he had dealings. All his failings were more remarkable during some days of each month. He destroyed himself after a domestic quarrel. Gall had no farther information with regard to this individual, who evidently laboured under mental derangement.

255. SKULL of a man who died of an acute disease, after having fallen into profound chagrin for a long time, in consequence of being deprived of his employment. He was remarkable for his kindness, and for extreme indecision, and precaution for the future. He became melancholy, anxious about the future, without the power of doing any thing which might render it favourable. By degrees his faculties became weaker; his memory especially diminished sensibly, which caused him to say,

that he was of no more use in the world. Such a state proved evidently an affection of the brain.

256. SKULL.—This person was remarkable for a degree of vanity altogether childish. He had the talent of retaining and repeating, almost verbatim, a conversation which he had just heard. He embraced with ardour all new opinions; but in point of reasoning he was so defective as to be ridiculous. Details of facts alone fixed his attention, while the relation of cause and effect escaped him entirely. He had the habit of saying, "It's all theory." He could not endure the lectures of philosophic thinkers, and was quite unable to follow a didactic discussion upon any subject. He was a perfect specimen of a superficial mind, possessing knowledge in great variety. He was a scrupulous devotee. He was troubled when religious subjects were discussed. Yet he was very worldly, and a slave to fashions and prejudices. He wished it to be believed that he was the object of attention to persons of consideration, and especially to women of distinction.

257. FRONTAL BONE, from the tombs of the museum of the Petits Augustins. No information as to this piece.

258. NATIVE OF BEHRING'S STRAITS; skull.—Given to Gall by a voyager, who found it there.

259. PATHOLOGICAL PIECE.—Base of the skull of a boy of five years old, with a great development of the organ of Love of Children. Gall shewed this specimen to prove the thinness of the skull at that age, and how the forms of the brain are imprinted on the osseous case.

260. SKULL.—Gall did not know the individual, but was assured that he shewed the greatest hesitation in his decisions on the most ordinary affairs of life. He became melancholy, and died in a house for the insane. No information on the acts of his life.

261. PATHOLOGICAL PIECE.—Remnant of the skull of a musician, who died of aneurism of the heart. Gall shewed this piece to prove, in opposition to those who held the contrary opinion, that the convolutions of the brain are imprinted on the skull. The digital impressions are, in truth, very evident on the orbital plate.

262. INSANE; skull.—The person died in a madhouse. Gall did not know the individual, but was told that he was of a false, dissembling, lying character, and during his maniacal delirium was remarkable for the manifestation of that character. He deceived the attendants with false reports, concealed the vessels used by the patients, and played many similar tricks, which much amused himself.

263. BASE OF SKULL.—The person died at a very advanced

age in prison. Gall shewed the piece, to prove the influence of age on the bones of the skull.

264. *INSANE*; skull.—The person died in a madhouse; melancholy, and with a propensity to suicide.

265. *INSANE*; skull.—The person died in a state of complete fatuity, the disease having continued a long time. No information on the qualities manifested.

266. *A ROBBER*; skull, presented by Professor Blumenbach.—The individual was shot.

267. *BASE OF A SKULL*.—The individual was remarkable for Amativeness, and it was in relation to that propensity that Gall exhibited the piece. He abandoned himself to the passion to excess, and in the latter part of his life was much weakened in memory; his memory of words was gone. The anterior part of the brain shewed so little activity, that he was imbecile and almost always torpid (*assumpti*.)

268. *INSANE*; skull.—The individual was furious, and died a few weeks after the attack. He was palsied on the left side. No other information.

269. *HUSSAR*; plaster cast.—The individual was executed for murder, committed under the influence of jealousy.

270. *CHOUAN*; skull.—The individual was wounded with a sabre by the *gens-d'arme* who took him, and died some time after of the wound, in a state of derangement.

271. *HYDROCEPHALOUS INFANT*; base of the skull.

272. *NEW-BORN CHILD*; skull.

273. *BASE OF THE SKULL*; copy in plaster.—Another proof of the alteration of nutrition in old age, of which there is a former example in No. 222.

274. *SKULL*, of a person who became deranged in consequence of venereal excess. He fell into fatuity some months after the attack of his malady, and died in that state. Gall had no farther information on this subject, whom he did not himself observe.

(To be concluded in next Number.)

ARTICLE IV.

CAPTAIN COOK'S VOYAGES.

HAVING, in our Sixth Volume, page 469, illustrated, by a narrative of Anson's Voyage, the evils arising from the neglect of those relations which the Creator has established between the human frame and external objects, and attempted to shew the necessity of enlightened intellect, to enable man successfully to

conduct his undertakings, we shall now proceed to notice Captain Cook's voyages as a contrast to that of Anson; Cook having been as remarkable for good fortune as Anson for the unparalleled disasters with which he was visited. It will not be difficult to discover the causes of the difference.

It does not fall within our plan to narrate Cook's first voyage. It is sufficient to mention, that its objects were the observation of the transit of Venus over the sun's disc, and the discovery of unknown countries in the South Seas. The voyage was very skilfully conducted, and it satisfactorily accomplished the objects of its projectors. No unusual provision, however, having been made against the attacks of disease, and the Captain having been forced to remain two months and a half at the deadly port of Batavia for the purpose of refitting his ship, he had the mortification to lose upwards of thirty out of his eighty-four men,—a circumstance which could not fail to make a powerful impression on his mind, and probably gave occasion to his turning his thoughts more zealously to those methods of preserving the health of seamen which he afterwards pursued with so remarkable success*.

Government having, in the year 1772, determined on a second voyage, for the purpose of exploring the Pacific Ocean, and of settling the long-agitated question regarding the existence of a Southern Continent, two ships—the *Resolution* and the *Adventure*—were very carefully selected for the expedition. The *Resolution*, of which the command was given to Captain Cook, carried 112 men, and the *Adventure*, under Captain Furneaux, was manned with 81. "In the equipment of these ships," says Dr Kippis, "every circumstance was attended to that could contribute to the comfort and success of the voyage. They were fitted in the most complete manner, and supplied with every extraordinary article which was suggested to be necessary or useful. Lord Sandwich, whose zeal was indefatigable upon this occasion, visited the vessels from time to time, to be assured that the whole equipment was agreeable to his wishes, and to the satisfaction of those who were to engage in the expedition. Nor were the Navy and Victualling Boards wanting in procuring for the ships the very best of stores and provisions, with some alterations in the species of them, that were adapted to the nature of the enterprise; besides which, there was an ample supply of antiscorbutic articles, such as malt, sour-kraut, salted cabbage, portable broth, saloup, mustard, marmalade of carrots, and inspissated juice of wort and beer." Four months and a half having been consumed in

* *Life of Captain James Cook.* By Andrew Kippis, D. D. Dublin, 1788, p. 178.

these preparations, the ships sailed from Plymouth on 13th July 1772, and took in refreshments at Madeira and the Cape de Verd Islands. On 20th August "the rain poured down upon our voyagers, not in drops, but in streams; and the wind at the same time being variable and rough, the people were obliged to attend to constantly upon the decks, that few of them escaped being completely soaked. This circumstance is mentioned to shew the method that was taken by Captain Cook to preserve his men from the evil consequences of the wet to which they had been exposed. He had every thing to fear from the rain, which is a great promoter of sickness in hot climates. But to guard against this effect, he pursued some hints that had been suggested to him by Sir Hugh Palliser and Captain Campbell, and took care that the ship should be aired and dried with fires made between the decks, and that the damp places of the vessel should be smoked; besides which, the people were ordered to air their bedding, and to wash and dry their clothes, whenever there was an opportunity. The result of these precautions was, that there was not one sick person on board the Resolution." On 30th October the ships anchored at the Cape of Good Hope. "From the healthy condition of the crews both of the Resolution and Adventure, it was imagined by the Captain that his stay at the Cape would be very short. But the necessity of waiting till the requisite provisions could be prepared and collected, kept him more than three weeks at this place, which time was improved by him in ordering both ships to be caulked and painted, and in taking care that in every respect their condition should be as good as when they left England." (P. 198.) They now sailed southwards, and in expectation of cold weather, the Captain "ordered slops to be served to such of the people as were in want of them, and gave to each man the fear-nought jacket and trowsers allowed by the Admiralty." After an unsuccessful search for a southern continent, our navigators, on 26th March 1773, anchored in Dusky Bay on the coast of New Zealand. They had now been 117 days at sea, during which time they had sailed 3660 leagues, without having once come in sight of land.

"After so long a voyage," says Dr Kippis, "in a high southern latitude, it might reasonably have been expected that many of Captain Cook's people would be ill of the scurvy. This, however, was not the case. *So salutary were the effects of the sweet wort and several articles of provision, and especially of the frequent airing and sweetening of the ship, that there was ONLY ONE MAN on board who could be said to be much afflicted with the disease*; and even in that man, it was chiefly occasioned by a bad habit of body, and a complication of other disorders." At New Zealand, Captain Cook applied himself to

the brewing of beer from the branches or leaves of a tree which greatly resembled the American black spruce. He was persuaded, from the knowledge which he had of this tree, and from the similarity which it bore to the spruce, that, with the addition of the inspissated juice of wort and molasses, it would make a very wholesome liquor, and supply the want of vegetables, of which the country was destitute. It appeared, by the event, that he was not mistaken in his judgment." Sailing from Dusky Bay, the ships, on 18th May, anchored in Queen Charlotte's Sound on the same coast. Here the Captain "went himself, at day-break, to look for scurvy-grass, celery, and other vegetables; and he had the good fortune to return with a boat-load in a very short space of time. Having found that a sufficient quantity of these articles might be obtained for the crews of both the ships, he gave orders that they should be boiled with wheat and portable broth every day for breakfast. Experience had taught him that the vegetables now mentioned, when thus dressed, are extremely beneficial to seamen, in removing the various scorbutic complaints to which they are subject." On 7th June the ships again put to sea; but on 29th July, "it was found that the crew of the Adventure were in a sickly state. Her cook was dead, and about twenty of her best men were rendered incapable of duty by the scurvy and flux. At this time, *no more than three men were on the sick-list on board the Resolution; and only one of these was attacked with scurvy.* Some others, however, began to discover symptoms of it, and accordingly, recourse was had to wort, marmalade of carrots, and the rob of lemons and oranges, with the usual success."

"Captain Cook could not account for the prevalence of the scurvy being so much greater in the Adventure than in the Resolution, unless it was owing to the crew of the former's being more scorbutic when they arrived in New Zealand than the crew of the latter, and to their eating few or no vegetables while they lay in Queen Charlotte's Sound. This arose partly from their want of knowing the right sorts, and partly from the dislike which seamen have to the introduction of a new diet."

On 17th August, the ships anchored at Otaheite, where fruits were procured, which contributed greatly to the recovery of the sick in the Adventure. When the Resolution entered the bay, *she had but one scorbutic man on board.* Leaving Otaheite, the Captain visited the Friendly Islands*, and, on 3d Novem-

* The inhabitants of Middleburg, one of the Friendly Islands, were found to be unusually distinguished by pacific and benevolent dispositions. "They seemed to be more desirous of giving than receiving; and many of them, who could not approach near the boats, threw into them, over the heads of others, whole bales of cloth, and then retired, without either asking or waiting for any thing in return. The whole day was spent by our navigators in the most agreeable manner. When they returned on board in the evening,

ber, again arrived at Queen Charlotte's Sound. Here "they were plentifully supplied with fish, procured from the natives at a very easy rate; and besides the vegetables afforded by their own gardens, they everywhere found plenty of scurvy-grass and celery. *These Captain Cook ordered to be dressed every day for all his hands.* By the attention which he paid to his men in the article of provisions, they had for three months lived principally on a fresh diet, and *at this time there was not a sick or scorbutic person on board.*"

The two ships having unfortunately parted, Captain Cook, on 26th November 1772, sailed from New Zealand, in search of a southern continent. "When he quitted the coast, he had the satisfaction to find that not a man of the crew was dejected, or thought that the dangers they had yet to go through were in the least augmented by their being alone. Such was the confidence they placed in their commander, that they were as ready to proceed cheerfully to the south, or wherever he might lead them, as if the Adventure, or even a larger number of ships, had been in company." After an unavailing search for a southern continent, in the course of which a southern latitude of 71° 10' was attained, our navigators, on 6th April 1774, reached the Marquesas Islands, where they obtained an abundant supply of fruits and fresh provisions. They had now been nineteen weeks at sea, during which time they lived upon salt diet; and yet on their arrival at the Marquesas, "*it could scarcely be asserted that a single man was sick*; and there were but few who had the least complaint of any kind." "'This,' says Captain Cook, in the narrative of his voyage, 'was undoubtedly owing to the many antiscorbutic articles we had on board, and to the great attention of the surgeon, who was remarkably careful to supply them in time.' It may justly be added, that this was likewise owing to the singular care of the Captain himself, and to the exertions of his authority, in enforcing the excellent regulations which his wisdom and humanity had adopted *."

every one expressed how much he was delighted with the country, and the very obliging behaviour of the inhabitants, who seemed to vie with each other in their endeavours to give pleasure to our people."—See Cook's Second Voyage, i. 192; and Life, p. 241.

* The inhabitants of the Island of Mallicollo in this quarter were found by our voyagers to possess a degree of honesty which is not very common among savages. "When the ship had begun to sail from the island, and they might easily, in consequence of their canoes dropping astern, have avoided delivering the things they had been paid for, they used their utmost efforts to get up with her, that they might discharge their obligation. One man, in particular, followed the Resolution a considerable time, and did not reach her till the object which brought him was forgotten. As soon as he came alongside the vessel, he held up the thing which had been purchased; and though several of the crew offered to buy it, he insisted upon delivering it to the

Having touched at the Society and Friendly Islands, discovered New Caledonia, and once more visited New Zealand, the Captain made a run eastwards to Cape Horn, effected some discoveries to the south-east of it, and then returned to Britain by the Cape of Good Hope. "During the circumnavigation of the globe, from the time of our Commander's leaving the Cape of Good Hope to his return to it again, he had sailed no less than 20,000 leagues. This was an extent of voyage nearly equal to three times the equatorial circumference of the earth, and which had never been accomplished before by any ship in the same compass of duration;" yet the vessel, by reason of her own good properties, and the care and abilities of her officers, "did not spring either low-mast, top-mast, lower or top-sail; nor did she so much as break a lower or top-mast shroud." On 30th July 1775, the Captain landed at Portsmouth, "having been absent from Great Britain three years and eighteen days, in which time, and under all changes of climate, *he had lost BUT FOUR MEN, AND ONLY ONE OF THEM BY SICKNESS.*"

On his return to England, the Captain addressed a paper to the Royal Society, on the means which he adopted for preserving the health of his seamen; and was in consequence not only chosen a member of that learned body, but was farther honoured by having the Copley gold medal voted to him for his experiments. In this paper*, and also at the end of the narrative of his second voyage†, he enumerates the several causes to which this remarkable enjoyment of health was to be attributed. "In the Introduction," says he, "mention has been made of the extraordinary attention paid by the Admiralty, by causing such articles to be put on board, as, either from experience or suggestion, it was judged would tend to preserve the health of the seamen. I shall not trespass upon the reader's time in mentioning them all, but confine myself to such as were found the most useful.

"We were furnished with a quantity of malt, of which was made *sweet-wort*. To such of the men as shewed the least symptoms of the scurvy; and also to such as were thought to be threatened with that disorder, this was given, from one to two or three pints a-day each man; or such proportion as the surgeon found necessary, which sometimes amounted to three quarts. This is, without doubt, one of the best antiscorbutic

person to whom it had been sold. That person, not knowing him again, would have given something in return; but this he refused, and showed him what he had before received. There was only a single instance in which the natives took, or even attempted to take, any thing from our voyagers, by any means whatever; and in that case restitution was immediately made, without trouble and without altercation."—Cook's Life, p. 278, and Second Voyage, ii. 33.

* Phil. Trans. vol. lxvi.

† Vol. ii. p. 291.

sea-medicines yet discovered; and, if used in time, will, with proper attention to other things, I am persuaded, prevent the scurvy from making any great progress for a considerable while. But I am not altogether of opinion that it will cure it at sea.

"*Sour krout*, of which we had a large quantity, is not only a wholesome vegetable food, but, in my judgment, highly antiscorbutic; and it spoils not by keeping. A pound of this was served to each man, when at sea, twice a-week, or oftener, as was thought necessary.

"*Portable broth* was another great article, of which we had a large supply. An ounce of this to each man, or such other proportion as circumstances pointed out, was boiled in their peas three days in the week; and when we were in places where vegetables were to be got, it was boiled with them, and wheat or oatmeal every morning for breakfast; and also with peas and vegetables for dinner. It enabled us to make several nourishing and wholesome messes, and was the means of making the people eat a greater quantity of vegetables than they would otherwise have done.

"*Rob of lemon* and *orange* is an antiscorbutic we were not without. The surgeon made use of it in many cases, with great success.

"Amongst the articles of victualling, we were supplied with *sugar*, in the room of *oil*, and with *wheat* for a part of our *oatmeal*; and were certainly gainers by the exchange. Sugar, I apprehend, is a very good antiscorbutic; whereas oil (such as the navy is usually supplied with), I am of opinion has the contrary effect.

"But the introduction of the most salutary articles, either as provisions or medicines, will generally prove unsuccessful, unless supported by certain regulations. On this principle, many years experience, together with some hints I had from Sir Hugh Palliser, Captains Campbell, Wallis, and other intelligent officers, enabled me to lay a plan whereby all was to be governed.

"The crew were at three watches, except upon some extraordinary occasions. By this means they were not so much exposed to the weather as if they had been at watch and watch; and had generally dry clothes to shift themselves, when they happened to get wet. Care was also taken to expose them as little to wet weather as possible.

"Proper methods were used to keep their persons, hammocks, bedding, clothes, &c. constantly clean and dry. Equal care was taken to keep the ship clean and dry betwixt decks. Once or twice a-week she was aired with fires; and when this could not be done, she was smoked with gunpowder, mixed with vinegar or water. I had also frequently a fire made in an iron pot, at the bottom of the well, which was of great use in puri-

fyng the air in the lower parts of the ship. To this, and to cleanliness, as well in the ship as amongst the people, too great attention cannot be paid: the least neglect occasions a putrid and disagreeable smell below, which nothing but fires will remove.

" Proper attention was paid to the ship's coppers, so that they were kept constantly clean.

" The fat which boiled out of the salt beef and pork, I never suffered to be given to the people; being of opinion that it promotes the scurvy.

" I was careful to take in water wherever it was to be got, even though we had no want of it; because I look upon fresh water from the shore, to be more wholesome than that which has been kept some time on board a ship. Of this essential article we were never at an allowance, but had always plenty for every necessary purpose. Navigators in general cannot indeed expect, nor would they wish to meet with, such advantages in this respect, as fell to my lot. The nature of our voyage carried us into very high latitudes. But the hardships and dangers inseparable from that situation, were in some degree compensated by the singular felicity we enjoyed, of extracting inexhaustible supplies of fresh water from an ocean strewed with ice.

" We came to few places, where either the art of man, or the bounty of nature, had not provided some sort of refreshment or other, either in the animal or vegetable way. It was my first care to procure whatever of any kind could be met with, by every means in my power; and to oblige our people to make use thereof, both by my example and authority; but the benefits arising from refreshments of any kind soon became so obvious, that I had little occasion to recommend the one, or to exert the other." " These," says the Captain, " were the methods, under the care of Providence, by which the Resolution performed a voyage of three years and eighteen days, through all climates, from 52° north to 71° south, with the loss of one man only by disease, who died of a complicated and lingering illness, without any mixture of scurvy. Two others were unfortunately drowned, and one killed by a fall; so that, of the whole number with which I set out from England, I lost only four *."

A third voyage was soon projected for the discovery of a north-west passage to the Pacific Ocean, when the Resolution, with 112 men, commanded by Captain Cook, and the Discovery under Captain Clerke, and carrying about 80 men, were put

* Phil. Trans. lxxl. 406.

into commission. Our limits will not permit us to go into the details of this voyage. We can only mention that every possible attention was paid to the equipment of the vessels, and the clothing, food, and discipline of the seamen. The ships sailed from Plymouth on the 12th July 1776, and so healthy were the crews, that, on their arrival at New Zealand, on the 12th February 1777, "*there were only two invalids upon the sick-lists in both ships* *." Having discovered the Sandwich Islands, where Cook met a melancholy death, and explored the western coast of America, as far as Icy Cape, our navigators returned to Britain by way of China, and "arrived safe at the Nore on 4th of October 1780, after an absence of four years, two months, and twenty-two days. During the whole of the undertaking, the Resolution *lost only five men by sickness*, three of whom were in a precarious state of health at their departure from England; while the Discovery DID NOT LOSE A SINGLE MAN †."

The causes of the extraordinary health of the seamen in these voyages, have been so fully detailed, and are so obvious, that we shall not detain the reader by a recapitulation of them. The causes of the successful manner in which the expeditions accomplished the purposes for which they were projected by Government, are equally obvious. The commander was a man who had raised himself from the lowest rank of life, by his skill in navigation, and was assisted by several scientific gentlemen. The ships, too, were the best that could be procured, and hence were able to accomplish voyages considerably longer than that of Anson, one of whose vessels was wrecked, and other three became to be so rotten and leaky, that he was forced to destroy them before half of the voyage had been accomplished.

In conclusion, we cannot but remark the very different spirit in which great voyages were undertaken, in the sixteenth, seventeenth, and beginning of the eighteenth centuries, from that by which they have generally been instigated since the commencement of the reign of George III. The great improvement in this respect strikingly marks the progress of civilization, and will be rendered obvious by a brief notice of some of the earlier circumnavigations.

Sir Francis *Drake*, who was the first Englishman that sailed round the world, commanded an expedition against the Spaniards in South America. He rifled the town of St Jago, plundered the enemy in various other quarters, and took several of their ships loaded with treasure. This voyage was made in 1577-80.

* Life of Captain Cook, p. 358.

† Cook's third Voyage, iii. 489.; and Life, p. 481.

Sir Thomas *Cavendish* (1586-8) went out on a similar enterprise. He plundered and burnt the town of Paita,—took several prizes,—sunk a ship at Puna, where he also seized a quantity of valuable furniture belonging to the Cacique; burnt the church, took away five of its bells, destroyed the orchards, burnt four large ships upon the stocks, and then, by setting fire to the town, which consisted of 300 houses, reduced it to a heap of rubbish. He afterwards burnt the town of Nativity in New Galicia, with two vessels of 200 tons burden, on the stocks. Thereafter, thirty of his men went ashore, during the night, at an Indian village called Acatlan, consisting of upwards of twenty houses and a church, to which they set fire. A prize, very richly loaded with treasure, was soon afterwards captured. This they plundered and burnt.

Dampier was a buccaneer, whose name was long terrible to the Spaniards in the South Seas.

Rogers and *Courtney* (1708-11) commanded privateers, and cruized on the coast of South America, “against her Majesty’s enemies, the French and Spaniards.” They took several rich Spanish ships, and plundered the town of Guayaquil, from which they carried off 25,000 pieces of eight, and about L. 12,000 in plate, ear-rings, &c., besides a considerable quantity of provisions and different kinds of merchandise.

Clipperton and *Shelvock* (1719-21) were likewise commanders of privateers; and *Anson*, as we formerly saw, plundered and burnt the unfortunate town of Paita, took the valuable Acapulco galeon and various other Spanish vessels, and would have done much greater mischief, if he had been able.

The scene, however, changes, in the middle of the eighteenth century. Avarice and war are no longer the only motives of our navigators. “It was reserved for the reign of George III.” says Dr Kippis, “to carry the spirit of discovery to its height, and to conduct it on the noblest principles;—not for the purposes of covetousness or ambition,—not to plunder or destroy the inhabitants of newly explored countries,—but to improve their condition, to instruct them in the arts of life, and to extend the boundaries of science.” Such voyages in particular were those of Byron (1764-6), Wallis and Carteret (1766-9), Portlock and Dickson (1785-8), Vancouver (1791-5), Parry (1819-29), and others among the English; and of Bougainville (1766-9), La Peyrouse (1785-8), D’Entrecasteaux (1791-3), and Freycinet (1810-20), among the French. These were expeditions undertaken, not for the purposes of murder and robbery, but for the advancement of science and commerce;—and they were in general conducted under the guidance of the moral sentiments, and considerably enlightened intellect.

ARTICLE V.

INQUIRIES CONCERNING THE INTELLECTUAL POWERS,
AND THE INVESTIGATION OF TRUTH, By JOHN ARK-
CROMBIE, M.D. &c. &c. 8vo. Pp. 435. Edinburgh, 1830.

DURING life, the human mind comes under our cognizance only as it exists in connection with, and in dependence on, corporeal organs for the power of manifesting itself; and as, in its separate state, it is entirely beyond the reach of our means of research, it is now very generally admitted by philosophers to be a mere waste of time and ingenuity to speculate upon its essence, nature, laws, or modes of operation, as it may be supposed to exist and act if totally disunited from the body. The object of true science is, therefore, simply to investigate the facts and relations of the phenomena of mind, in the form in which *these are presented to us by the Author of Nature*; in the full conviction that we shall sooner attain the truth, by yielding our attention and assent to what His wisdom has pronounced to be "very good," than by attempting to penetrate mysteries, or to pursue methods of inquiry, which, in the very nature of things, can lead to no successful result.

In accordance with the innumerable proofs by which we are constantly surrounded, it is also universally agreed, that, during life, the influence of the corporeal organs on the mental operations, those of emotion as well as those of intellect, is prodigious in amount, and incessant in its action, from the first step we make in the path of life to that by which we leave it. In the course of many corporeal maladies, sudden and violent mental disturbance is seen to arise immediately on the invasion of disease, and to terminate only when health is restored; and, *vice versa*, sudden and extraordinary disturbance of the bodily functions, and even death itself, are often observed to be produced by violent emotions of the mind. Aware, then, as we become from the contemplation of such phenomena, of the extent to which mind and organization reciprocally affect each other, it ought evidently to constitute a primary point in every inquiry into the laws of mind, to determine, so far as can be done, the amount and conditions of the connexion existing between mind and its bodily organs; and no investigation can be entitled to the name of philosophical, which overlooks this most important circumstance. True science can be erected only on a basis of *facts*; and in studying the laws which regulate the operations of the mental powers, if we neglect to investigate the various organic conditions by which the manner and intensity

of their manifestations are thus increased, diminished, and modified, nothing but failure can attend our efforts.

Common and striking as are the phenomena which demonstrate the mutual dependence and action of mind and matter on each other, and familiarly as these are exhibited to us, not only in the brutalizing effects of intoxication,—in the soporific effects of opium,—in the headach and irritability of temper proceeding from disordered stomach,—but also in the excitement and vivacity of perception and of feeling produced by wine, and a variety of other external stimuli, the phrenologists alone, of all the inquirers who have engaged in the cultivation of the philosophy of mind, have made it a fundamental rule to ascertain and to take into account in all their inferences, the influence of changes in the state of the organs upon the manifestations of the different mental powers; and, taking warning from the failure of every attempt hitherto made, through Consciousness alone, to advance the science of Mind and of Human Nature, they have diligently turned their own attention, and loudly called that of their cotemporaries, to the observation and collection of FACTS, as the only basis of legitimate induction; and the acknowledged success which has followed their labours, is the best proof that the right road has at last been found, and that we may now look forward with confidence to the speedy attainment of that Philosophy, which, but lately, was said by a celebrated writer to exist, as yet, “*only in expectation.*”

In procuring facts, the medical inquirer possesses many advantages, which can never occur to the merely speculative philosopher. His notice is constantly attracted to the observation of the mutual influence of mind and body; and the numerous opportunities by which he is constantly surrounded, give him ample means of determining the principal conditions under which these act upon each other. And, therefore, when we consider that the author of the work before us is distinguished for acuteness and activity of mind, and great general talent, and that he stands deservedly at the very head of his profession as a practical physician,—and farther, when we find him stating in his introduction, that “the mental manifestations are greatly modified by the condition of those bodily organs by which the mind holds intercourse with external things, *especially the brain,*” we naturally turn to his pages with the expectation of deriving much useful information from their perusal, particularly on the above very interesting points, on which none but a medical philosopher can well be expected to throw much new light. We shall presently see how far our expectations are fulfilled.

Dr Abercrombie remarks in the outset, that it is only in modern times that the science of Mind has assumed value and importance, as it is only of late that it has been cultivated on the

principles acted upon in physical science, namely, a careful observation of facts, and cautious induction from them; and he adds, that the chief hinderance to success on these principles, arises from the *difficulty of procuring the facts*. We agree entirely in these positions; and as the mode in which facts are to be obtained lies at the bottom of the whole inquiry, we shall begin by examining that adopted and proposed by the author.

"The only field," according to Dr A. "in which the mental philosopher can pursue his researches with perfect confidence, is his own mind. In his observations on the minds of other men, he is obliged to judge of the phenomena by external manifestations; and in this manner, a degree of uncertainty attends his investigations which does not occur in physical science. From this source, also, has probably arisen much of that difference of opinion which we meet with in regard to mental phenomena; for each inquirer having drawn his observations from one mind, namely his own, it was scarcely to be expected that there should not be some diversity, or that facts derived in this manner should possess the character of being universal;" (p. 2). And in various other places, we are referred to consciousness, as the only source of our knowledge of mind.

On reading the last paragraph of the above quotation, we are surprised that the inconsistency of attempting an induction from facts thus avowedly presenting a *diversity of character*, and a *want of universality*, (qualities stated by himself to be fatal to their value as facts), did not occur to the logical and disciplined mind of the author; and that he did not thence infer the necessity of going back a step farther, and inquiring *what gives rise to the diversity of results* in different minds which he here notices. We have seen that, in the abstract, he admits that the mental manifestations are *greatly modified* by the condition of those bodily organs, by which the mind holds intercourse with external things; and yet he institutes no inquiry into any of the conditions so admitted to modify the mental powers, although it seems very natural to suppose that they might afford a key to some of the diversities of result. We, however, know, that had he attempted to investigate these conditions, and to trace their effects, he would have perceived that many of the differences which involved his facts in doubt, owed their origin to differences in the bodily conditions cognizable to the senses, and of essential importance to the construction of a true philosophy. But, from not having been sufficiently impressed with their active importance, he seems to have viewed the organic differences observable during health as of no moment, and to have confined himself chiefly to the examination of those which are the result of disease; a proceeding involving a double error, in respect that the morbid state can be accurately

known only when seen in connexion with that of health. In proof of this statement, we shall continue the quotation above begun. Instead of directing attention to the observation of the cerebral conditions during health, as from its commencement we should expect, it runs thus:—"It becomes, therefore, a matter of the greatest interest, to ascertain the manner in which the manifestations of mind are affected by *DISEASES of these organs, as well as to observe their condition in that remarkable class of affections commonly called diseases of the mind;*" but not one word is said of its being worth while to ascertain the manner in which the manifestations of mind are affected by healthy differences in the organic conditions, although such notoriously exist to a great extent.

Dr Abercrombie seems to have fallen into this singular oversight from an erroneous supposition, for which he adduces no evidence, and which we are surprised that a professional man, of his acuteness and solidity of judgment, should have assumed, namely, that the *mind does not act through the medium of material organs, except in its communications with the external world.* This was pretty nearly the doctrine for which Mr Jeffrey incurred so much ridicule, and so unexpectedly did it come upon us in its present shape, that we read the passages many times, to try if they did not convey, however obscurely, some other meaning. Having failed to discover any other, and finding the author going so far as to say, that we are probably advancing a step beyond what is warranted when we speak of the brain being necessary even to perception, as "we do not know whether impressions, made upon the nervous fabric connected with the organs of sense, are conveyed to the brain, or whether *the mind perceives them directly,* as they are made upon the organs of sense," p. 56; and having thus convincing proof that he does not in practice pay any regard to the quality, size, or condition of the brain, as modifying in any way the mental operations, and thereby omits altogether the most important and influential of the FACTS connected with the philosophy of mind, the conviction is irresistibly and reluctantly forced upon us, that the author has been expending immense talent, great knowledge, and much labour, in constructing an edifice destined, from its want of foundation, speedily to crumble into decay; whereas, if he had pursued his inquiry with a closer reference to the philosophical principles which he so ably exposes, and collected facts,—complete, invariable, and harmonious facts,—for his basis, he might have erected a superstructure, the durability of which would have been equalled only by its intrinsic value.

Dr Abercrombie is of opinion, in accordance with most preceding philosophers, that a knowledge of mind is obtainable only from consciousness. In one sense, this is indubitable; but in

the same sense, our knowledge of external nature must also be ascribed to consciousness, as every thing, whether external or internal, must become an object of consciousness before we can become acquainted with its existence or properties. The phrenologists, with whose writings no modern author on the science of Mind can be supposed to be unacquainted, have done their utmost to call attention to the fact, that consciousness does not inform us even of the existence of mental organs, much less does it acquaint us with the influence of different conditions of these organs upon the mental manifestations; and they have urged the conclusion, that, therefore, *consciousness is not sufficient to reveal the conditions or laws of the mind's action*, and that, to discover these, we must have recourse to extensive observation. Neither Dr Abercrombie nor any other person has ever attempted to refute either the premises or the inference; and the very inconsistency which he is obliged to admit in the facts derived from consciousness, corroborates the accuracy of both positions. It is worthy of remark, also, that, when he admits the prodigious influence of the condition of the brain on the operations of the mind during disease, he derives his knowledge of that influence not from consciousness, which can afford him none, but from *observing during disease in others the connexion between cerebral state and mental manifestations*. Why, then, does he not consistently follow out the same plan during health? and at what point in the approach to disease does consciousness cease to be, and observation become an adequate source of knowledge? Invariability and consistency he states to be characteristics of truth and of facts, and of a right mode of proceeding. When thus proved to be unattainable on his method of inquiry, why does he longer adhere to it?

But general principles are best illustrated by examples; and if we select any individual case, we shall perceive immediately, that in mind, as in physics, observation is the true fountain of practical knowledge. Let us take two individuals in perfect health, the one characterized by the limited mental powers of idiocy, and the other by the genius and talent of a Bacon, and attempt to philosophize upon their respective attributes. If we refer to reflection on consciousness, we shall not succeed in discovering a single condition on which the difference depends; even should we reflect for years; because consciousness is not aware of the action of material organs at all, and reveals to us only *the existing state of our own minds*. But if we resort to observation, we remark that the brain of the idiot is perhaps not larger than that of an infant, while that of the Bacon is ample in all its dimensions, and largely expanded in the anterior lobes; and on extending our observations, we find the *fact of UNIVERSAL application*, that an adult head of the above deficient size is *always* accompanied by idiocy, and that, *ceteris paribus*, the large an-

terior lobe of the brain is always accompanied by relatively higher intellectual power. These, be it remarked, are *facts* of practical value, illustrative of one at least of the conditions which modify the mutual action of mind and organization; and, what is more, they are truths, although of vast importance, yet unattainable by reflection on consciousness alone, and powerfully demonstrative of the necessity of resorting to observation for the facts on which the science of mind is to be reared.

The uses of consciousness seem to be generally misunderstood. It merely acquaints us with our existing mental states, and thus as it were reveals to us the *quality* or nature of our mental perceptions and emotions; but it can give us no information of the conditions owing to which we have a stronger perception of one quality than another. Consciousness tells us that the emotion of pity is of a pleasing kind, and that that of anger is entirely different; but it does not and cannot inform us, which observation does, that a particular condition of the brain may so far influence the latter as to convert it into ungovernable fury, or that the power of experiencing the emotion of pity bears a relation to the condition of a particular part of the brain. For a knowledge of the *conditions* of action, we must resort to observation on others; and it is in vain to attempt to obtain it in any other way than that in which the wisdom of the Creator has presented it to us.

In like manner, consciousness reveals the *quality* of colour. For example, it informs us that red is different from green, and enables us to appreciate the sensation of the one as of one kind, and that of the other as of a different kind, and both as different from sensations of form, or magnitude, or position; but it does nothing more, and gives us no intuitive knowledge of the *conditions*, in external nature or in ourselves, on which the sensations depend, and these above all other things it concerns us to know; and accordingly we discover them from extensive observation. Consciousness, in short, plays precisely the same part in regard to our knowledge of the external world, as in regard to our internal emotions. It acquaints us with the *nature* or *feeling* of both, but not with the *conditions* which give rise to them; and therefore the rule of collecting facts from observation applies with equal force in investigating the science of mind, as it does in physical science; and when this shall be generally attended to, our future progress will be commensurate with our closer adherence to the laws of rigid philosophical inquiry.

The phenologists, ridiculed and despised as they have been by the ignorant and prejudiced, are, nevertheless, as we have said, the only persons who consistently follow out the Baconian laws of induction; and it is no small recompence to themselves to feel the security which their adherence to nature gives them. Dr Abercrombie's mode of inquiry and induction are theoretically the same, but the results seem to us to be vitiated by a

radical defect in the application of his own rules. He sees and enforces the value of facts, as the only foundation on which to raise a philosophical induction; but those which he gives, even when well ascertained, are often incomplete, and, consequently, their true relations cannot appear. He says, as already remarked, that the only field in which the mental philosopher can pursue his inquiries with confidence, is his own mind, and that great uncertainty attends all observations made on others, and he proceeds accordingly to discuss his subject, deriving his facts from consciousness. But even taking his own mind as a fair type of human mind, and taking his facts as beyond dispute, it is impossible to deduce from them general rules, because they stand *isolated from the conditions which influenced their production and manner of being*; and he nowhere takes into account the influence of the organization through which the mind operates, although he admits, in the abstract, that its manifestations are greatly modified by the organic conditions. To put this in a plain light, let us take an extreme case, and contrast the facts and laws of Attention, Abstraction, or Imagination, as they would be drawn from consciousness by a philosopher and by an idiot. In the former, one order of sequence would be observed; in the latter, a very different one. What causes this difference? This is surely a most essential inquiry, and yet no allusion whatever is made to it in Dr Abercrombie's book; nor does Consciousness present an answer. *Observation*, however, gives some information. It cannot discover whether the original constitution of mind differs in such cases or not, but it proves demonstrably that a different condition of brain attends each, and that in no instance do we ever find the intellectual talent of the philosopher manifesting itself in conjunction with the small brain, indicative of idiocy. This is a *fact* which Dr Abercrombie will not dispute; and as proving the necessity of attending to the effects of the bodily organization on mind, it is a most important one. If we proceed to the next step above idiocy, we find the anterior lobes of the brain increasing in volume as intellectual power advances (the condition of health being of course understood), till we come at last to the prodigious expanse in Lord Bacon, in correspondence with a scope and energy of mind which no man has ever exceeded. This principle, indeed, holds throughout the whole animal kingdom. In speaking of the cerebral lobes being the place where all the sensations take a distinct form, and leave durable impressions, Cuvier adds, "*Comparative anatomy offers another confirmation in the constant relation which the volume of these lobes bears to the degree of intelligence possessed by the animal.*" Cuvier's authority, as an observer and comparative anatomist fully competent to judge, will not be called in question by Dr Abercrombie, and therefore he must admit the accuracy of this

position. But observation proves farther, that the dispositions, as well as the intelligence, of the lower creatures are also in relation to the structure and constitution of the brain; and if these be **FACTS**, as we hold them to be, and as the author himself will perhaps admit; and if they be truths, lying beyond the reach of consciousness, and discoverable only by observation,—is it philosophical to omit all notice of a condition which is found to be of such paramount importance to the very basis of the inquiry, and to state results, and argue from them as if no such condition existed?

To illustrate our meaning, let us take caloric, or the principle of heat, as a kind of parallel case, and in some respects it is not a bad one, as we know as little of the principle of heat as we do of that of mind, and can study its laws only as it exists in combination with, and modified by, material bodies. Were we to attempt to investigate the laws of heat in the same way as we do those of mind, we should altogether disregard the fact of its combination with other bodies, and, instead of endeavouring to trace the modifications of its action, produced by the different densities and conducting powers of different bodies, we should try to discover its laws and properties as if it were an abstract existence; and our speculations would then be marked by the inconsistencies and hypotheses which at present characterize our investigations in the science of mind. Suppose, for example, that I touch a bar of iron heated to the 212th degree, I would instantly feel pain from being burnt; and every time that I repeated the experiment, the result would be the same. Now, were I to trust, in this instance, to consciousness alone, and to find the same result invariably follow every time my hand touched iron at 212°, I would obviously infer it to be a *universal* fact or law that a temperature of 212° would burn the hand. But then, if, instead of unnecessarily limiting ourselves to one source of information, we resort to the *observation* of the effects of heat in combination with *other* bodies, we find that a man may wrap himself up in *wool* heated to 212°, and, far from being burned, feel only *overheated*. The latter, however, judging from consciousness alone, might most justly say to me, "No, my friend, you are quite wrong, a temperature of 212° does *not* burn;" and an interminable dispute might arise between us, as between two philosophers on mind, and no means of reconciliation be discovered till some sagacious observer stepped in, and, confident in Nature's consistency, and of the existence of a cause for such discrepancy, set himself to work to discover what it could be, and, by *observation*, found it to consist in the different densities of the bodies with which the caloric was combined; after which the whole difficulty would vanish, and we should at once agree.

Precisely similar is it with the operations of mind. If the

mind of A is connected with cerebral organs equal to 5, and that of B with organs equal to 10, and both judge from consciousness, and do not advert to the different conditions of their brains, what can follow but inconsistency in their conclusions? This is, however, to a faulty extent, the mode of inquiry pursued by Dr Abercrombie; and, as his facts, even when certain, are thus *incomplete*, they fail, in many instances, to warrant his inductions. We are astonished, we confess, at his omission; for the physician in full practice has daily and hourly proofs before him of the indispensable necessity of attending to organic influence. Phrenology has been charged with favouring irreligion; but, without any allusion to Dr Abercrombie, we can scarcely point to any thing which, as it appears to us, shows a greater distrust in the ways of God, than the common practice of utterly disregarding, as unnecessary to the manifestations of mind, conditions which *He* has in *His* wisdom seen fit to render essential to its operations. It seems to be the false dread of believing matter necessary to the workings of mind which leads to this practical impiety, as if we could gainsay or abolish what God himself has decreed to be right!

Dr Abercrombie nevertheless admits, what no one can deny, that the condition of the brain does influence the operations of the mind, and that its diseases vehemently disturb these operations. With this specification of the existence of the extreme links of the chain, is he then justified in omitting all reference to those conditions which constitute the intermediate links, seeing that his professed object is to inquire into the laws of the intellectual powers; and that these cannot be understood without including the organic influence? The facts and doctrines of Phrenology would assuredly have afforded him great assistance in arriving at accurate results on this subject; and it is to us inexplicable on what ground or principle Dr Abercrombie can justify his omission to mention the new philosophy. In saying this, we do not mean to complain that he has done injustice to the phrenologists; on the contrary, our sincere respect for him leads us to lament that he has thereby done injustice to himself, and that, too, more than he may at present be aware of. The existence and objects of Phrenology could scarcely be unknown to him; and as every writer on the science of Mind is morally bound to avail himself of the latest additions to the general stock of knowledge, Dr Abercrombie could not avoid reference to the subject, without risking the charge of an utter disregard of facts and principles, which many cautious and sensible men have, after the most rigid examination, declared to be sufficient to clear up many of the grand difficulties with which the metaphysicians have long struggled in vain. The day is gone by when it would have been considered creditable to an author on the philosophy of Mind to treat Phrenology with contempt. We

cannot persuade ourselves that Dr Abercrombie meant to do so; and, yet, how will his silence be generally accounted for? We rather think that the world had a right to expect the expression of an opinion from him, as a teacher of intellectual philosophy. If he had reason to believe the phrenological facts inaccurate, or the conclusions drawn from them unsound, he was doubly called upon to enter upon their refutation, considering the rapid progress which these views are making, and the manifold injuries always resulting from the propagation of error. If, on the other hand, he believed the principles of Phrenology to be essentially true, he was bound to give his testimony to that effect, in order to discourage, by the weight of his authority, the efforts of those who are active in exciting prejudices against them, and impeding their diffusion. We trust that, in a second edition, the intelligent author will leave no room for another expression of our disappointment, and we are willing to believe that, if he had considered how much the omission was liable to be misconstrued, he would not have shrunk from giving his opinion.

Our author seems to be strangely misled, if we appreciate his meaning correctly, in believing that, except in so far as relates to the mind's intercourse with the external world, it has nothing to do with material organs. In one place, indeed, we have seen him expressing a doubt whether the co-operation of the brain is necessary, even for the perception of the impressions made on the organs of the external senses; and in another (p. 33, 34), he expressly states, that many mental emotions take place independent of the condition of the bodily frame, and gives as examples, the mind remembering, conceiving, combining, loving, fearing, and hating, in the total absence of any impression from without. But if these mental operations are really independent of the material organs, how does it happen that a few grains of opium, or a blow on the head, put a stop to them all; that wine and other stimuli add to their intensity, or that sleep, without any thing external, also interrupts their activity? Dr Abercrombie himself gives numerous examples of these mental acts being suppressed or disturbed by disease, and he must either admit that the organization has an influence, or that the disease has reached the immaterial principle of mind.

Strictly speaking, indeed, the human body is one great organ of Mind. The same principle animates and directs it all, and the sole purposes of all its parts are either to be directly subservient to Mind, or to support the animal existence of those parts which are so subservient. The brain and nervous system are properly the parts which constitute the animal, and all others are constructed to place each function in relation with its own objects. The nerve of Sight has the eye to bring it into relation with the properties of light; that of Hearing has the ear to connect it with the vibrations of external bodies; that of Taste has the tongue to

place it in relation with the qualities of the food; that of Feeling has the skin to connect it with the objects of touch; and that of Motion has the muscles and bones to enable it to effect change of position; but all have the common function of subserving the same mind, and giving impressions of, or communicating with, certain properties of external bodies. In all these cases, the necessary co-operation of the material organs is at once admitted, because the objects on which they are *directly* employed are external to ourselves; but even in them, it is almost universally admitted that the brain is necessary to the perception of the external impression, and that without its agency we should never become *conscious* of any change produced on the external organ. Dr Abercrombie, indeed, doubts whether this is not a mere assumption; but as his own belief seems to be in accordance with it, we shall not consider him as intending to deny the fact.

Minutely examined, however, the case of the faculties of thought, sentiment, and propensity turns out to be more nearly analogous to that of the external senses than is imagined; and the necessity of admitting them to have cerebral organs for their manifestations becomes equally great, and rests exactly on the same kind of evidence. The chief difference betwixt them is, that the functions of the external senses, and those of the internal faculties, are different, which in the very nature of things must be. The sense of sight has a *direct* reference to external nature, because that is implied in its function. But Benevolence, Cautiousness and Justice, have an equally necessary, though *indirect*, relation to external objects, and, without being placed in relation with these, they could neither act nor be acted upon. There is, therefore, a fallacy in Dr Abercrombie's ground of distinction between the one set of faculties as requiring organs, and the other as requiring none. The senses, he says, are entirely dependent on external impressions, but the mind is not—it conceives, remembers, loves, fears and hopes, in the total absence of any impression from without that can influence in the smallest degree these emotions, and recalls scenes, deeds and persons, long forgotten.

In estimating the value of the above distinction, we must bear in mind, first, that the brain is, avowedly necessary to the perception of external objects, and that, without its instrumentality, no consciousness of any impression made from without upon the eye, ear, or nerves of touch, can ever reach the mind. Secondly, that the scenes, deeds and persons, long forgotten, were thus at first presented to the mind through the medium of the senses and brain, and that as soon as their real or bodily presence is withdrawn from the external sense, they remain, as it were, the property of the mind and brain; so that, by disturbing the action of this latter organ by wine or opium, or a blow

on the head, the remembrance of them becomes confused or is destroyed; and returns only on the return of the brain to its natural state, which could not happen were they consigned to the mind independent of bodily conditions, as the author seems to suppose. Thirdly, that the mind always loves, fears, remembers, &c. *something external to itself*, and that thus the mind, cut off from external objects from birth, would be as little available as the eye without light. Even in the partial deprivation of solitary confinement, the mind speedily gives way, although for a time it can support itself on the memory of past impressions, which continue to furnish objects of interest to the feelings and thoughts. Man's whole mind is constituted for social relations with others, as much as the eye is for light. Hope, fear, love, justice, and every emotion and intellectual operation, presuppose and deal with other people's emotions and external objects. Benevolence does not see the beggar who excites its pity, by a sense belonging exclusively to itself, although it could not act unless the impression from without was made upon it; because, to have given each internal faculty an immediate communication with external nature, would have been to follow a multiplied and complicated method, the very opposite to the simplicity and harmony which characterize the other works of the Divine Being. God has so constructed the one sense of sight, as to serve equally for all the faculties of the mind, whether perceptive, emotional, or reflective. The same eye enables the perceptive powers to determine the size, form, and colour, of an object, and brings it into relation with Benevolence, with Cautiousness, with Justice, or with Veneration. He has thus avoided the necessity of giving multiplied organs of sense to every internal feeling, while he has left all of these equally dependent on without, as the eye is on light. It is the perceptive powers which remember and retrace past impressions, and to remove these would be to the feelings what taking away light is to the eye.

With deference, we are obliged to say that Dr Abercrombie seems unconsciously to have allowed the fear of materialism to have blinded his judgment, in considering the influence of the brain on the manifestations of the internal faculties, otherwise he would never have maintained their dependence to be limited only to their relations to external objects, or that mental changes were frequently independent of the condition of the bodily frame. When he affirms, that, "*in the most peaceful state of every corporeal function, passion, remorse, or anguish, may rage within, and while the body is racked by the most frightful diseases, the mind may repose in tranquillity and hope,*" (p. 34), are such statements characterized by that strict accuracy and precision which philosophy requires? Is it literally correct to say, that passion, remorse, or anguish, may rage

within, and the corporeal functions continue in the *most peaceful* state? Would, for instance, an actor, the professed imitator of nature, be held as a skilful delineator of *passion* or *remorse*, if he were to present himself with the placid eye and features, the calm breathing, and regular beating of the heart, which are the signs of a peaceful condition of these various bodily functions? Or, would the remorse and anguish of a man who had wronged us, be received as sincere, if he were to appear before us with every mark of a peaceful state of his bodily functions? Quite the reverse of all this. Every one who has had the misfortune to be in a passion, or to see it in another, knows too well that bodily excitement, quick and almost convulsive beating of the heart, hurried breathing, flushed features, a glistening fiery eye, and fulness of the vessels of the head, are the sure accompaniments of true passion. Remorse and anguish, in like manner, disturb the bodily functions in a very remarkable degree; and, in point of fact, the arts of painting and statuary have no foundation in nature, if the passions and emotions of the mind do not *necessarily* affect the bodily organs and functions. Even Hope and Fear are so eminently influential on the bodily functions, that, as a practical physician, Dr Abercrombie never for a moment loses sight of their effects. The fear of dying is well known to act so injuriously on the bodily frame, as almost to insure the occurrence of the fatal result.

In his anxiety to shun materialism, our author has certainly gone so far in the opposite direction, as to have needlessly given the advocates of materialism a means of assailing his own views. By the apprehension which he shows of admitting the necessity of bodily organs to the mind's manifestations, he leaves it to be supposed that a future state of existence depends for its proof on the substance of which mind is made; and that, if made of matter, it cannot be immortal. *Whereas the evidence on which a future state of existence rests, has not the slightest connexion with, or dependence on, the nature or essence of mind.* We are nowhere told, and have no reason to assume, of what the mind consists, or that its immortality has any reference to its essence at all. The doctrine of man's resurrection and life in a future state rests on revelation alone, and not on the inherent properties of mind; and thus the only reason that can be given for it, is the *fact* of an Almighty Creator. If it be His good will to continue our existence beyond the grave, little does it matter to His power of what we are made; and if it be not His will, little, very little, will any material avail us in opposition to Him. Whichever way, therefore, we view the subject, we need not fear to follow truth wherever it may lead; and if God has ordained mind to act through the instrumentality of matter in all its emotions and operations, we shall be

easier, and shall approach more closely to Him, by attending to the fact, and treating it with reverence and submission,—than by shutting quite eyes to its existence, and following a theory of our own in its stead.

Dr Abercrombie himself, indeed, expresses essentially the same opinion, when he says—“We know nothing of the nature or essence of mind; but whatever may be its essence, and whatever may be the nature and extent of that mysterious connection which the Deity has established between it and our bodily organization, these points have no reference whatever to the great question of its future existence.” (This momentous truth keeps to a species of evidence altogether different, &c. (1863). Nor is Dr Abercrombie singular in this statement, for the view conveyed in it is that taken by divines, moralists, and philosophers, almost without any exception. Why, then, should we fear to trace the conditions under which the connection between the mind and organization is effected? We shall never be able to solve the whole mystery, but there are palpable conditions of great influence within the reach of observation, and these we are bound to make ourselves acquainted with.

Dr Abercrombie's anxiety to avoid materialism has led him unconsciously into another misapplication of argument. (Unable to understand how, if mind is dependent on the bodily organs for its manifestations, the being *I* can remain the same amidst the incessant change of particles of which my body is composed, he considers the feeling of continued identity as a proof that the mind acts, conceives, and remembers, independently of the organs.) But, in the first place, the impossibility of our explaining any process of nature is a proof only of our limited powers, and not of the process itself being managed either with or without the participation of the organs; and in the next, Dr Abercrombie overlooks the fact, that animals perceive, remember, and apparently have the consciousness of being the same animals throughout a long life, notwithstanding that they undergo the same changes of corporeal composition as men, and are generally believed not to have any thinking principle apart from their organization. So that, unless he can show that their feeling of identity varies with their component particles, or that they have a thinking principle independent of their bodily frame, his former argument, as to man's consciousness being independent of corporeal conditions, must of necessity fall. Whereas if we adopt the principle, that it signifies nothing as to its future existence what constitutes the mind of man, and that it is recalled into life by the *will of God alone*, we see at once a broad line of distinction between man and animals (since we are nowhere told that God willed the lower animals to have eternal

* The subject of Materialism, and the above views, were amply discussed in our first Number eight years ago, and they have been found unanswerable.

life); and we are left to pursue in safety and confidence the path of knowledge laid open to us, without any fear of its leading us astray from the fountain of Truth,—the one and only true God.

Every day, indeed, furnishes new proofs of the error we commit in assuming that any thing *cannot* be. Dr Abercrombie thinks the feeling of personal identity too purely of a mental nature to be in any way dependent on organization, and regards the constant change undergone by the organ, and the singleness of the feeling, as incompatible; because he cannot understand how the particles of to-day communicate the consciousness to the particles of to-morrow. We do not pretend to explain the mode or manner in which this is done any more than our author; but when we look into his own book, and there find cases narrated, in which the sense of personal identity was lost, and in which the patient believed himself to be *another person*, or an animal, or even the Devil himself, we maintain that these demonstrate that the feeling of personal identity is influenced by organic conditions; and that, therefore, the philosophy of its operation cannot be considered complete; or general inferences be deduced from it, unless the chief organic influences, and their laws, be taken into account at the same time. That this affection of personal identity is not purely mental, but is affected by bodily causes, is proved by its connexion with corporeal disease, and by its disappearance when the disease is removed.

Under the head of Somnambulism, indeed, Dr Abercrombie relates several most interesting cases of what is erroneously called *double consciousness*, in which the patient lives in two different and alternate states, forgetting, in the one, every thing which takes place in the other; and, *vice versa*, recollecting in the one every thing which took place during the period corresponding to itself. A young lady, after an attack of somnolency, found that she had lost every kind of acquired knowledge. She began to study from the beginning; and some months afterwards, on awakening from a second attack, found that she had regained all she formerly knew, but had not the slightest recollection of any thing which had happened in the interval. She then had a third attack, which left her in the same state as the first had done; and subsequently a fourth, which left her restored to the condition in which the second had left her. In the one state, she uniformly recollected all her original knowledge; in the other, only that acquired after the first attack. We have lately heard the history of another case somewhat of the same kind, in which, after a very long fit of somnolency, a lady awoke utterly unconscious of every preceding occurrence, of the use or nature of language, and of the features of her friends, and utterly forgetful that she had ever seen her husband before. She is now learning every thing like a child.—In these singular cases, the disturbance or interruption

of continued consciousness is evidently, owing to a bodily affection; and if the condition of the body thus exercises an important influence at one point of the scale, it is altogether unphilosophical to maintain that it exercises none at another. Sleep, indeed, suspends the consciousness of identity, and it is avowedly a bodily affection. Its very familiarity prevents our attaching due importance to its effects on the mind.

In entering so minutely into the above discussion, we need hardly say that it is, the sincere respect we entertain for Dr Abercrombie's superiority of intellect, great acquirements, extensive experience, and deservedly high reputation, which has led us to call his attention to the oversight which he has committed in not entering more carefully into the consideration of the influence of the organization on the mental functions during health. Had we not rated very highly his authority and weight with the public, we should never have taken the trouble we have done to show how extensively his omission endangers the solidity of his own superstructure. Convinced as we are by a superabundance of evidence, that the philosophy of the intellectual and moral powers can be attained only by investigating the operations and laws of mind in connexion with its bodily organs, and that every attempt made on any other principle must do harm, in withdrawing attention from the true path of inquiry, it becomes a positive moral duty in us to expose its defects, and to warn the reader against being misled by an erroneous application of principles in themselves incontestably true, and of great importance to the conducting of investigation.

The informed phrenologist is well aware that the defect we have pointed out in Dr Abercrombie's work is not of a trivial nature, and it will not be difficult to make even the unphrenological reader understand its importance. The author's section on Memory, for example, abounds in excellent facts and reasoning, and is marked by a love of truth and a liberal spirit of inquiry; and yet its results are very imperfect, from his overlooking the influence of the corporeal organization. He states, in the outset, that "*there seem to be original differences in the power of memory, some individuals being remarkable for retentive memory, though not otherwise distinguished by their intellectual endowments,*" p. 97; and, as instances, he speaks of one person being able to repeat a long discourse after hearing it once; of another being able to repeat the contents of a newspaper, and so on, where the understanding was otherwise defective. He then refers to *local* memory, and to that founded on analogies, and admits that the one may be possessed without the other. These are *facts*, and therefore a solid ground for inquiry. The first question that presents itself, on contemplating them, is naturally, "what are the circumstances or conditions on which these differences depend; can we ascertain them?" On having

recourse to further observation, and comparing the condition of the brain or organ of mind in those who are distinguished for the accuracy of any particular memory; and in those who are defective in the same kind of memory, we perceive a remarkable difference of development in portions of the brain, invariably corresponding, all other circumstances being equal, to the degree of power possessed; and we observe that one part of the brain is large in those who have the great *verbal* memory; another in those who have the *local* memory; a third in those who excel in remembering analogies; a fourth in those who excel in musical memory; and so on. These, then, are additional *facts* bearing directly on the point at issue; and therefore positively essential to the inquiry into the laws of memory. Instead, however, of proceeding in the examination by this most direct and philosophical way, and of thus building his superstructure on *facts*, as it is the object of his book to recommend, Dr Abercrombie merely says, "The facts now referred to are *matters of curiosity only*. The points of real interest and practical importance in regard to memory, respect the manner in which it is *influenced by the intellectual habits of the individuals*, and the principles on which it may be improved. These are referrible chiefly to two heads, viz. ATTENTION and ASSOCIATION;" p. 99.

Now, it is manifest that the examination of the facts thus dismissed as matters of curiosity only, really constitute the most important part of the inquiry; and that an explanation of the conditions on which they depend, and of the laws which thus limit the memory to *classes* of objects, is the only possible mode by which Dr Abercrombie's subsequent problem of the influence of intellectual habits can be solved. For example, we find that it is an intellectual habit of A to recollect every word of a poem or discourse which he has heard once, and of B to remember the appearance of every place he has ever seen; but that A cannot recollect places, nor B words. The real question then comes to be, What causes this difference between A and B? To say it is a peculiar intellectual habit, is to say nothing more than that each has had the power, and has exercised it from the beginning; and accordingly the author admits it to be "original," or a part of their constitution. The habit, then, being the consequence of the previous possession of the power, we are driven back to the conditions under which the power manifests itself; and these are, as we have said, certain states of the organ of mind which those deficient in the power do not present. This is tangible ground, and cannot be evaded.

Again, "memory," says Dr Abercrombie, "is much influenced by ATTENTION." This is most true; but on what does the power of attention depend? Atlas supports the world, but what supports Atlas? One person can devote his whole attention, with ease and pleasure, to a mathematical proposition,

and yet fail to keep it alive for five minutes to a process of abstract metaphysical argument. Another may delight in concentrating his attention for days together on the productions of the musician, the poet, and the sculptor, and yet fail to command it to a simple arithmetical calculation. On what do these differences depend? Each may make the strongest effort to apply to the uncongenial subject, and yet his attention wander in spite of himself. Dr Abercrombie resolves the whole into the effect of previous habits and pursuits; but then comes the query, What is necessary for forming a habit? We have all heard of instances in which every conceivable motive combined to induce a son to tread in his father's footsteps, and to become his successor in business; and in which the son has persevered for years in trying to acquire the habit of liking it; and yet, when released from these, has turned from his now habitual mode of life with aversion and disgust, and followed a different pursuit, in which he had no previous experience, but in which, nevertheless, he has speedily excelled, because the new habit was congenial to his nature; while, in attempting to form a habit of a different kind, he could never fix his attention upon what he was about. In such cases, observation shows that cerebral differences are invariably connected with the different powers of attention; and consequently a knowledge of these becomes essential to the philosophy of attention.

Every section of the work before us might be taken up in the same way, and the deficiency be seen to pervade the whole; but it is unnecessary to lengthen our detail. It is with pain we have felt compelled to go so far as we have done; but, in proportion to Dr Abercrombie's eminence and authority, a regard for truth, for the interests of science, and of the human race, and a sense of justice towards the great discoverers of Phrenology, Drs Gall and Spurzheim, whose labours have been thus overlooked, made the duty imperative, and it will give us sincere pleasure should the talented and amiable author afterwards take up the question, and, *by facts*, either convince his own judgment, or show that we have been in error. In the mean time, we are glad to say, that, notwithstanding the deficiencies we have pointed out, the work before us presents a great deal of information, and many curious and interesting facts which have come under the author's own observation, and which throw light upon many of the phenomena of mind. With his application of the rules of philosophical investigation to medical science, we were particularly pleased. It displays throughout an acuteness of observation, and a cautious soundness of judgment, which cannot fail to impress his readers. There is also much excellent matter in the last part, in which Dr Abercrombie considers the qualities and acquirements which constitute a well regulated mind; and we know that the practical suggestions there made for the improvement of the mind are calculated to act beneficially on the rational reader.

to observe accurately, requires a degree of intelligence and acuteness, a freedom from prejudice, and a patience of investigation, which can be found united only in a mind constantly alive to the influence of general laws, and ardent in the pursuit of every difficulty and of every anomaly to their origin in some previously unperceived condition affecting the production of the expected result. So that, if we take it for granted that he who confines himself to simple observation, will be the most successful in the collection of trust-worthy facts, and in the discovery of important natural truths; we shall infallibly fall into error. So prone, in fact, is the human mind to go back to principles, that scarcely any thing can be perceived without some relation to general laws, or to some other better known phenomena suggesting itself; and, in this way, as has been acutely remarked by Dr Cullen, "the simplest narrative of a case almost always involves some theories," and our mode of observation being thus insensibly affected by our previous views, it becomes a point of primary consequence that these should be correct; and, accordingly, hypothetical notions are found to prevail and to satisfy the mind, in exact proportion as the intellectual powers are weak, and education and knowledge are incomplete; and well has it been said by the same author; that, in this state, "in what is commonly called experience, we have only a rule transferred from a case imperfectly known, to one of which we are equally ignorant. Hence that most fertile source of error, the applying deductions drawn from the result of one case to another case, the circumstances of which are not precisely similar. *Without principles deduced from analytical reasoning, experience is a useless and a blind guide.*"

In medicine, perhaps, more than in any other department of science, a knowledge of, and reference to principles, wherever practicable, is indispensable, for nowhere does the mere sequence of events, the *post hoc ergo propter hoc* mode of argument, so often lead into error. Even in the simplest act of the animal system, a combination of causes and circumstances is at work, the failure of one of which, in itself apparently insignificant, may vitiate the expected result, and if this source of error be not guarded against by sound directing principles, the inferences deduced may happen to be at direct variance with the truth; and it is in the habitual watching and just appreciation of all collateral conditions and differences, that an observer who is acquainted with, and acts under the direction of, established principles, shews his superiority over one who proceeds without any such guidance. The former not only collects facts for his basis, but he is more scrupulous in subjecting them to examination before

* Cullen's MS. Lectures, quoted by Macculloch, lib. cit. p. 21.

same time, so as to make the motion somewhat diagonal, but this motion never brought the head nearly so far forward as in the natural position. When roused by loud or repeated questions he answered imperfectly, but to the point, and frequently muttered "hunger, hunger, hunger, it's hunger," which expressions were almost invariably followed by a peculiar motion of the mouth, as if he were sucking and moving to and fro something enclosed in it. The lips were protruded forwards. He could now eat but little when food was given to him. To ascertain the exact seat of the pain in his ear, I asked where it was, but could not induce him to raise his hand to the spot, though he said in his ear. I then touched the head immediately above the temporal process of the zygomatic arch, and he said it was there. On touching the mastoid process, and asking if the pain was there also, he replied no; but on applying my finger about an inch below the situation first touched, he said it was there too. This shewed the pain limited to the locality of Alimentiveness. An hour afterwards he fell asleep, and slept nearly nineteen hours, with the intermission of an hour. From this period he gradually improved, and at the end of a fortnight was dismissed. The day before dismissal, I asked if he felt any pain; and he immediately touched the right side of his head, exactly in the situation before mentioned, and said that he still occasionally felt pain there, but not always. He also said that he had ringing in his ear on that side, and at times saw "something dark," that was not excluded by closing his eyes, and which followed him at night under the bed clothes, with which he covered his head to get away from it. A blister had been applied to his head the day after admission, and the blistered surface answering to the right temporal fossa ulcerated, and was scarcely healed at the expiration of the fortnight. The external configuration indicated a large but not remarkable development of Alimentiveness, with a but moderate anterior lobe of the brain. What his usual appetite had been I have not succeeded in learning.

The above are such of the particulars of this case as seemed most important to be related. The epileptic attacks, the delirium and incoherence, the local pain, and the pathognomonic symptoms evinced in the position and peculiar motion of the head, all tend to establish the existence of disease in the head, and also in that particular part of it where phrenologists have supposed the organ of Alimentiveness to be situated. Nor was any complaint made of pain in the stomach, or elsewhere, till three days after admission into the hospital, when slight pain was felt in the right side.

It has been objected to phrenologists that their physiological views derive little confirmation from pathology; but the case here given may furnish an instructive, nay almost a satiri-

indeed, are so well calculated to disarm prejudice and recommend inquiry, that I cannot do better than subjoin what he says. In alluding to a singular inequality of understanding which gives rise to indecision of character, Dr Conolly adds, in a note: "This is not the only variety of character, of which it may occur to some of my readers that the phrenological system affords the best apparent explanation. *The facts alluded to in the text, many of the phenomena of disease, and the observation of ALL MANKIND, seem to me to prove that the first principles of Phrenology are founded in Nature.* On these, it is very probable that many fancies and errors may have been built; but now that anatomy and physiology have together penetrated so far into the separateness of structure and functions of the nerves, of the spinal marrow, and even of certain portions of the cerebral mass, *I can see nothing which merits the praise of being philosophical in the reason affected contempt professed by so many anatomists and physiologists, for a science which, however imperfect, has for its object the demonstration that for other functions, the existence of which none can deny, there are further separations and distinctions of hitherto unexplained portions of nervous matter*.*" What a contrast between the philosophic candour of such sentiments, and the unworthy criticism of another justly celebrated Professor of the same university, who, in his late work on the Nervous System (p. 232), is pleased to affirm, that "the most extravagant departure from all the legitimate modes of reasoning, although still under the colour of anatomical observation, is the system of Dr Gall." And yet so irresistible is the force of truth to unprejudiced minds, that notwithstanding the weight of the Professor's well-earned reputation, and the natural influence exercised by a talented Teacher over the minds of his pupils, in enforcing his own opinions, and retarding the progress of those which he combats, he has actually to complain of the "popularity" of the phrenological doctrines, and of the difficulty he has felt, "during their successive importations, to keep his pupils to the examples of our own great countrymen," and to the completion of the structure, "commenced on the labours of the Monros and Hunters, and which the undeserved popularity of the continental system has interrupted." The unprejudiced inquirer will probably discover another reason for the difficulty the Professor experiences in preserving his pupils from the contamination of Phrenology, and be disposed to believe that, in a contest for truth, no man, however great his talents, or extensive his acquirements, has any chance for success when Nature is arrayed against him.

EDINBURGH, November 1830.

* CONOLLY on the Indications of Insanity, p. 135.

ARTICLE VIII.

1. THE LORD IS AT HAND; or, THE LAST TRUMP. Third Edition. London, 1830.
2. ARTICLE AMERICA, in Encyclopædia Britannica. Seventh Edition, 1830.

THE reader may be surprised at the association of the two works which compose the title of this article, and feel some difficulty in conjecturing the connexion of either with Phrenology; but we shall not hold him long in suspense. The author of the article on America arrives, by an attentive survey of facts in Natural History, at the conclusion, that the human race is yet in its infancy, both in regard to its numbers, the development of its powers, and the perfection of its institutions; while the author of "The Last Trump," by the study of Prophecy, announces, with great confidence, that the world is fast approaching to its termination.

"The seventh trumpet," says this author, "must be the last of that series of events indicated by that symbol, and the last event which can take place in the present state of the world, because, at its sounding, the kingdom of Christ is set up. Rev. xi. 15-18." P. 6. "Betwixt the sixth and seventh vials, we are likewise informed that *three unclean spirits* go forth from the mouths of the dragon, and of the beast; and of the false prophet, to gather the kings of the earth, and of the whole world, to the great war of God Almighty, which war must take place during the seventh vial. Every one must perceive that the characteristic of the present day, is the dissemination of opinion; *aply represented by spirits proceeding out of mouths*. The schoolmaster is abroad," &c. "The midnight cry which awakens the virgins, can be nothing but a company of preachers proclaiming the Coming of the Bridegroom, and *that cry has been made*." Revelations xiv. "seems to indicate, that it is at the commencement of that series of battles which compose the war of the great day of God Almighty, that the elect are gathered, and the rest of the world left to be the victims of offended justice." "When the saints are caught up in the air, and the salt is removed from the earth, there seems no longer any reason for, nor any means of, the preservation of the present framework of human society, which is only kept together in order to preserve the church."—Christ "is coming a second time to be admired in all them that believe, but to dash to pieces all the rest of Christendom: He is coming to trample upon them in His fury, and to stain His

cal answer to such an objection. It occurred in those wards of the Infirmary set apart for the instruction of medical students, and was consequently seen by many. It was also under the care of a medical professor, fully competent both to observe and reflect upon what passes beneath his eye; yet the coincidence which it offered in confirmation of one of the phrenological organs passed by unnoticed, except by a very few. How many other evidences, which the sickbed would furnish in support of the doctrines of Gall and Spurzheim may be thus overlooked! Certainly, this is by no means the first of such evidences, that during a brief attendance in the wards of our Infirmary, I have seen pass equally unobserved. It is with reluctance these remarks are written; but the cause of truth demands that the reason why pathology seems so barren of proofs should be exposed. I have not the slightest reason to believe that such evidences would be purposely overlooked. They remain unobserved merely on account of the physicians in superintendence not having made themselves sufficiently acquainted with Phrenology; to see whether disease really does yield facts in confirmation of its doctrines. Perhaps phrenologists ought not to expect of physicians to study *their* philosophy of mind; but they may with justice affirm that no one *unacquainted with Phrenology* is entitled to say pathology affords no evidence in support of it.

Other cases of bulimia, which this would be called by nosologists, are on record; wherein *post mortem* examination has shewn disease in the brain, and none in the stomach, &c. *; and such also occur in connexion with disease in the stomach or other parts, whether without disease of brain is perhaps doubtful; nor does it appear that observers have always sufficiently distinguished between the mental instinct; and those sensations supposed to depend on the nerves of the stomach, &c. Fleming well describes the instinct †.

Alimentiveness not being considered an organ perfectly established; it may be useful to adjoin some observations made by myself, in regard to the points to be attended to in estimating the size of this part of the brain, which from its situation is a matter of difficulty. It is nearly parallel to the zygomatic arch, which is often rendered prominent by it when large, but the distance of the arch from the proper parietes of the skull being variable, this is not a certain guide. The temporal muscle opposes an obstacle, but may itself be used as a means of removing the difficulty in part. When the organ is larger than its neighbours, the lower part of the temporal muscle is pushed outwards, making it appear as if lying on a pyramidal, instead of a vertical-sided

* Vide Monro's Morbid Anatomy of Gullet, &c. 2d Edit. p. 271.

† Philosophy of Zoology, vol. i. p. 243.

cranium, the base of the pyramid being downwards; when small, the reverse occurs. If the organ be very large, it will affect the socket of the eye-ball, pushing the latter up and forward, not as in Language down and forward: when both are large (at least in one instance I have seen this), the eye looks imprisoned by a fulness extending almost round it. I am, &c.

EDINBURGH,
12th January 1831.

A MEDICAL STUDENT.

ARTICLE VII.

OBSERVATIONS ON MENTAL DERANGEMENT, being an Application of the Principles of Phrenology to the Elucidation of the Causes, Symptoms, Nature, and Treatment of Insanity. By ARTHUR COMBE M.D., Post Soc. Pp. 384. Edinburgh; John Anderson Junlor; London, Longman & Co.

THE readers of the Phrenological Journal are already acquainted with a portion of this work; namely that which treats of the Causes of Insanity, which appeared originally in detached essays in our pages. Chapters have been added on the dissections, proximate causes, and treatment of insanity. The introduction contains a narrative of the investigation, reflections, and experience, which produced in Dr Combe's mind a conviction of the truth and utility of Phrenology, and also an interesting exposition of the manner in which the leading principles of the science have been adopted and published, sometimes without due acknowledgment, by French medical authors, as an improved physiology of the brain, and of the influence of their writings on the views of physiologists in Britain. As the interests of Phrenology require that a knowledge of these facts should be as widely disseminated as possible, and as the narrative is at once interesting and instructive, we present it entire to our readers:—

When yet a student, I joined in the general burst of ridicule with which the phrenological doctrines were received at the time of Dr Spurzheim's visit to Great Britain in 1816-17, a piece of conduct which is explained, though far from justified, by the circumstance, that I was then totally unacquainted with their nature and import. My attention was first seriously turned to the examination of these doctrines during my residence at Paris, in the autumn of 1818, when Dr Spurzheim's *Observations sur la Phrenologie*, then just published, were happily put into my hands, at a time when, from there being no lectures in any of the Parisian schools, I had ample leisure to peruse that work

deliberately. I had not proceeded far before I became impressed with the acuteness and profundity of many of the author's remarks on the varied phenomena of human nature, and with the simplicity of the principles by which he explained what had previously seemed contradictory and unintelligible; and, in proportion as I advanced, the scrupulousness of statement, sobriety of judgment, and moral earnestness with which he advocated his views and inculcated their importance, made me begin to apprehend that to condemn without inquiry was not the way to ascertain the truth of Phrenology, or to become qualified to decide in a matter of medicine or of philosophy. I therefore resolved to pause, in order to make myself acquainted with the principles of the new physiology, and to resort, as he recommended, to observation and experience for the means of verifying or disproving their accuracy, before again hazarding an opinion on the subject.

In carrying this resolution into effect in the following winter session, I had the advantage of being able to attend two Courses of Lectures delivered by Dr Spurzheim, at Paris, on the Anatomy, Physiology, and Pathology of the Brain and Nervous System, during one of which rather a striking confirmation of his doctrine occurred. In the middle of the lecture of 1st December 1818, a brain was handed in, with a request that Dr Spurzheim would say what dispositions it indicated, and he would then be informed how far he was correct. Dr Spurzheim took the brain without any hesitation, and, after premising that the experiment was not a fair one, in as far as he was not made acquainted with the state of health, constitution, or education, of the individual, all of which it was essential for him to be aware of before drawing positive inferences; he added, that nevertheless, he would give an opinion, on the supposition that the brain was a sound one, and endowed with ordinary activity. After which, he proceeded to point out the peculiarities of development which it presented, and desired his auditors to remark the unusual size of the cerebellum, or organ of Amativeness, and the great development of the posterior, and of part of the middle lobes of the brain, corresponding to the organs of the lower propensities, the convolutions of which were large and rounded, forming a contrast with the deficient size of the anterior lobes, which are dedicated to the intellectual faculties. The convolutions situated under the vertex, and towards the top of the head, belonging to the organs of Self-Esteem and Firmness, were also very large, while those of Veneration and Benevolence were small. These peculiarities were so well marked, that Dr Spurzheim felt no difficulty in inferring that the individual would be very prone to sensual indulgences; that "his natural tendencies would not be towards virtue;" that he would be what is familiarly expressed in

French by "*un mauvais sujet*," being a very comprehensive term for every variety of bad dispositions, and that "*he would be one to whom the law would be necessary as a guide*;" but not knowing the circumstances in which he had been placed, he could not say what his actions might have been.

At the conclusion of the lecture, a young man, an *élève interne* of the Hôtel Dieu, came forward and said, that the brain was that of a suicide, who had died in that hospital, and that the dispositions inferred by Dr Spurzheim coincided perfectly with those manifested during life. As I was at the same time following the surgical clinique of the celebrated Dupuytren, whose patient he was, and as the case was interesting both in a professional and phrenological point of view, my attention had been particularly directed to this very individual from the day of his entrance into the Hôtel Dieu, to that of his death, a period of about fourteen days; and I was thus better able to appreciate the perfect accuracy of Dr Spurzheim's conclusions, than if I had merely trusted to the report of the *élève*. The man, it appeared, had been a soldier, and had for some crime suffered an ignominious punishment, and been dismissed from the army. He returned to Orleans, to resume his trade of barber, but every one shunned him; and, suspecting his wife to have been secretly his enemy, he attempted to kill her with a knife, and, being defeated in this, he stabbed himself in the side, was carried to the hospital, and died of the wound. As he lay in bed, the head sunk in the pillow, its size seemed small, but this arose from the anterior part, or the seat of intellect (which was very deficient) being alone visible, the whole bulk consisting of the organs of the propensities. Dupuytren, when commenting on the case, in his lecture, made daily complaints of the man's *mauvais moral, imperiousness, and violence of temper*, and represented these qualities as great obstacles to his recovery. So that, altogether, the close coincidence between the facts with which I was familiar, and the remarks of Dr Spurzheim, who had never seen the skull, and judged from the brain alone, as it lay misshapen on a flat dish, made a deep impression on my mind, as it went far to prove, not only that organic size had a powerful influence on energy of function, but that there actually were differences in different brains, appreciable to the senses, and indicative of diversity of function*. In continuing the prac-

* While writing the present pages (12th November 1830), I was invited to assist at the examination of another suicide, whose brain presented a remarkable resemblance to that of the Frenchman. In most instances of self-destruction, large Cautiousness is found in combination with deficient Hope, and there is a tendency to settled depression or gloomy anticipation of futurity. In the two cases now before us, however, this did not hold, and the deed was apparently the result of disappointed selfishness, having no moral sympathies on which to fall back, and thus generating recklessness rather than

tical observations which I had begun to make on living heads, I met at first with many difficulties, partly from unacquaintance with the local situations of the alleged organs, and with the limits of their respective functions; and partly also from want of experience in observing; and thus, while the general result seemed to be confirmed, many apparent exceptions presented themselves, and gave rise to numerous doubts. In extending my observations, however, for the purpose of substantiating these objections, natural solutions so invariably presented themselves, one after another, in proportion as they were scrutinized, that, after two years' experience, the conviction of the truth of the fundamental principles; and of the correctness of the functions ascribed to many of the larger organs, became irresistible, while I still hesitated in regard to several of the smaller organs, the evidence of which I had not sufficiently examined. Actuated by the natural feeling of improbability that so much should have been discovered in so short time by only two individuals, however eminent their talents and felicitous their opportunities, I still expected to meet with some important errors of detail, and, so far from being disposed to adopt implicitly all the propositions of Drs Gall and Spurzheim, I rather looked for, and expected to find, some hasty conclusions or unsupported assumptions; and my surprise was extreme to discover, that, in the whole extent of their inquiry, they had proceeded with so much caution and accuracy, as, in all their *essential* facts and inferences, to have rendered themselves apparently invulnerable.

On finding their statements in regard to the conditions required for the healthy manifestations of mind thus borne out, and aware that a true physiology of the brain should not only derive confirmation from its morbid phenomena, but that it was, in fact, the only basis on which an intelligible and consistent view of the pathological derangements of the mental faculties, and the means required for their cure, could rest, I resolved not to lose the favourable opportunity of prosecuting the inquiry, which then presented itself in the announcement of a Course of Clinical Lectures on Mental Derangement, at the Hospice de la Salpêtrière, by the celebrated Esquirol, the friend, pupil, and successor of Pinel. This course I accordingly attended in the

despondency. In the recent instance there was an unfavourable combination of powerful Secretiveness, Firmness, Acquisitiveness, and Self-Esteem, with a low moral, and deficient reflection; and, on opening the head, an effusion of whitish serum, and great vascularity of the pia mater, were found at the vertex, in the region corresponding to the organs of Self-Esteem and Firmness as the centre, and extending laterally to those of Love of Approbation and part of Conscientiousness. These appearances were remarked by several medical gentlemen. The vascularity was not in the least like that from gravitation, and it diminished in proportion as we receded from the vertex, both posteriorly and anteriorly. The act itself, I need hardly add, was the result of disease.

spring of 1819, being the first which was given; and, amid the numerous forms of disordered mind, congregated in so large an establishment, I felt great interest in tracing the consistency which still appeared to obtain between the phenomena and the physiological principles unfolded by the founders of the new philosophy. So closely, indeed, did the descriptions of the various forms and transitions of insanity, and the distinctive features of the numerous cases referred to by the Professor in illustration, (the subjects of most of which were then to be seen in the asylum), correspond with the doctrines which I was engaged in studying, that I very naturally supposed that M. Esquirol himself must be a phrenologist; and accordingly, in a letter to a friend in Edinburgh, written on my return from one of the lectures, after mentioning where I had been, I added, that on that day the Professor had finished the symptoms attending disorder of the intellectual faculties, and that, though he had made no allusion to Phrenology, yet he proceeded to discuss each separately, much on the same principle as Dr Spurzheim himself would have done; and, after referring to some cases of lesion of particular powers, which Phrenology seemed to explain, I concluded by saying, as the result of the whole, that he appeared to lean much to the new views, although he had not spoken of them by name. This remarkable coincidence strengthened the impression already made on me in favour of Phrenology, but still many doubts remained.

Having met Dr Spurzheim shortly after the letter referred to was despatched, I happened to express to him the gratification I felt in M. Esquirol's lectures, and my belief that the latter must be a good phrenologist. My surprise, it may be conceived, was very great, when Dr Spurzheim informed me, that notwithstanding the remarkable coincidence which I had observed between all the facts and most of the opinions of M. Esquirol and those of Phrenology, the Professor was nevertheless opposed to the new doctrines. Nor was I long left in doubt on this point; for, in some of his subsequent lectures, that gentleman introduced Dr Gall's opinions, merely to add that he totally differed from them; while every fact which he mentioned, and every case which he quoted, seemed to me to corroborate the fundamental propositions of the very philosophy, which, in the abstract, he unqualifiedly condemned. He mentioned objections, indeed, but these were either entirely founded on misconception, or they were the hackneyed and thread-bare assertions, which the slightest acquaintance with the subject enables every one to solve for himself, and which have already been refuted, times without number, in every country in Europe. He spoke also of instances in which Drs Gall and Spurzheim had gone wrong in their opinions of individual heads in the asylum, and of which he had

preserved casts; but he neither stated precisely in what the errors had consisted, nor did he exhibit the casts; so that he afforded no means of determining whether a mistake had occurred, or, if so, whether the fault lay in the science, or merely in its individual application, in which last, as in chemistry or natural philosophy, an error may be committed, without affecting the truth of the general law. But, as every observation which he made, and every case which he exhibited, appeared to be in harmony with Phrenology, and nowise to warrant the unfavourable conclusions which M. Esquirol had drawn from them, I could not attach very great importance to them as disapproving the doctrines I was investigating; and accordingly continued my inquiry.

Feeling at every step I made in the examination of Dr Gall's discoveries, a deeper and deeper sense of their importance and practical usefulness, if they should prove to be true, and having made myself sufficiently acquainted with his principles, to be able to follow their application, I then entered upon the perusal of Dr Spurzheim's French work, *Sur la Folie**, with much attention, and with constant reference to the cases and phenomena brought under review, in the wards and lecture-room of the Salpêtrière; and, when thus employed, I became still more alive to the value of Phrenology as a branch of professional knowledge, and lost no opportunity of testing its evidences by a comparison with nature. Shortly after this, viz. in 1820, a treatise, entitled *De la Folie*, made its appearance from the pen of M. Georget, and met in many quarters with much commendation, for the precision, consistency, and soundness of its doctrines. This work proved not only to be very ably written, but to be based throughout on the principles of Phrenology, and to be devoted, in its whole substance, to the advocacy of the same doctrines in regard to mental affections, which, with some slight differences, it was the sole object of that previously published by Dr Spurzheim to inculcate. Of the latter, however, M. Georget made no mention whatever, although he referred to Dr Gall's writings and lectures as the sources of many of his ideas; and, so oddly are opinions biassed by preconceived notions, that it is said to have happened that the same critic, who expressed his disrespect for the views as published by the one author, bestowed his approbation upon them as coming from the other. I am uncertain whether this allegation be strictly correct; but I am quite secure in stating, that Dr Spurzheim's book, although in substance the same, met with a very different reception from that published by Dr Georget.

* This admirable work, which was published in 1818, had appeared two years previously in English, under the title of "*Observations on Insanity*," but I had not seen it.

From M. Georget thus openly proclaiming opinions on insanity and on the functions of the brain, coincident at least with those previously published by Dr Spurzheim; it was to be supposed that he had received his professional education, far from the influence, and especially far from the alleged anti-phrenological views of M. Esquirol; as one would naturally imagine, that, if living within the reach of that gentleman, any leaning towards Phrenology would have been instantly counteracted by his opposing evidence; yet it happened curiously enough, that Georget was not only in communication with, but that he was actually the friend and pupil of M. Esquirol, and, in his capacity of *Alter Interne*, resided for several years, "*vivant pour ainsi dire continuellement en milieu de douze cents malades*," in the very hospital to which the other was physician, and spending the greater part of his time in studying and investigating the very cases and facts on which Esquirol founded his unbelief! And not only did he there obtain a conviction of the general truth of the phrenological discoveries; but, impressed with their importance to the farther advancement of our professional knowledge of mental diseases, he printed the work referred to, enforcing his conviction on the ground of its being supported by fact, and, with becoming respect, dedicated it to his illustrious preceptors Pinel and Esquirol, who, by the services which they have rendered to science and to humanity, by the unwearied and benevolent exercise of their great talents in the vast field which they have dedicated their lives to cultivate, well merited the tribute.

Encouraged by the flattering reception which Georget met with, Falret*, Voisin†, and some other able French authors, speedily appeared, inculcating essentially the same views, and with still greater fearlessness, with so much good effect, that a large portion of the younger French writers and physicians now adopt Gall's anatomical and physiological expositions of the brain as equally sound with Bell's and Magendie's expositions of the nerves. Few of them, it is true, are very conversant with the details of Phrenology; but of the fundamental principles, that the brain consists of an aggregate of distinct organs, each having a distinct function, and that power of function is influenced by organic size, they have not a shadow of a doubt. Under the guidance of these principles, a great advance has of late years been making in France, in the study and discrimination of nervous and mental diseases.

In our own country these occurrences have not been without their effect; for it seems to me indubitable, that to Dr Spurzheim's labours and demonstrations, both oral and published, we are more indebted for the remarkable progress made of late years in our acquaintance with the anatomy, physiology,

* Falret, De l'Hypochondrie et du Suicide.

† Voisin, Des Causes des Maladies Mentales.

and pathology of the brain and nervous system, than most of those who have profited by his researches only at second hand are at all aware of. Many, indeed, whose knowledge has come to them thus indirectly, and who have perhaps derived it through the unsuspected medium of some continental writer, who has adopted, without acknowledging, the phrenological principles, are persons who, not knowing what Phrenology is, and fancying it to be something extremely absurd and fantastical, positively dread being considered either as advocates of, or believers in, the new views. But the day is not far distant when such individuals may find reason to regret their continued inattention to the subject. While a doubt remains of nature and phrenology being identical, fear of the consequences of avowing belief in it is rational, because belief in error is always hurtful. But when once a conviction, founded on evidence either of its truth or falsity, is obtained, we possess a shield more than fit to protect us against all the dangers of taking our stand on the result to which such evidence has led us. Acting in accordance with this position, on obtaining what I conceived to be demonstrative proof of Phrenology being founded in nature, I avowed my belief in it, and have ever since advocated its cause, and, so far from having had any reason to regret the course I have pursued, I have, on the contrary, to thank it for obligations as permanent and valuable, as the temporary ridicule which it brought along with it is evanescent and contemptible.

But, it may be said, even granting Phrenology to be the true physiology of the brain, and the latter to be the only sound basis of its pathology, is it not premature to seek to apply its principles to the improvement of medicine, seeing that so much is wanting to fill up its details? To this an answer may easily be given. False theories are now prevalent, which necessarily mislead and divert attention from the proper investigation of the subject, and beget confusion and uncertainty of practice; and, therefore, even if Phrenology only approximate more nearly to truth than they, the assistance which it will afford must be proportionally more valuable; and, therefore, its leading principles being already established on an irresistible induction of facts, we are authorized, by reason and analogy, to make use of them, so far as they are applicable, as freely and authoritatively as we do of the general principles of chemical and natural science, neither of which has yet attained any thing like the perfection which time and cultivation will one day bring along with them. But, in speaking thus of Phrenology, it must be recollected that I refer to it as it exists in the minds of those who have actually studied it, and not in the crude and contradictory form in which it is presented to us by those who have never examined its pretensions. And, if this equitable rule be followed, it will be found, that, both in its principles and in its facts, it is

advanced far beyond what those who are unacquainted with it have the least conception of. We judge of Chemistry as it exists in the works and minds of its most eminent cultivators; and not as it comes forth from those of its half-initiated disciples; and, in like manner, we form our opinions in regard to Natural Philosophy, and the applications of its principles, not as unfolded to us in the pages of a newspaper, or in the hastily got up articles of a review, but as they come from the minds of a Laplace, a Playfair, a Leslie, or a Gay-Lussac. No good reason can be given why a different and less equitable rule should be applied to Phrenology; on the contrary, from its being a new science, candour and justice would rather require that a more liberal allowance should be made for its real and supposed deficiencies.

There is yet another reason which amply warrants the earliest possible application of the new doctrines to the elucidation of mental affections; and that is the importance of general principles to the successful direction of inquiry, which has been too much overlooked by several late experimental physiologists. Disgusted with the visionary theories which once maintained a mischievous ascendancy over the minds of men, and led them far from the observation of the phenomena occurring in the great laboratories of nature, we have passed, in our aversion, almost to the opposite extreme, and, discarding general views, we cry aloud for facts. And as facts are the only basis of accurate knowledge, it is fortunate for mankind that the present mode should be attended with so much practical usefulness. But facts alone are not sufficient, and unless they be collated, and their relations to each other and general laws be deduced by a careful induction, they lose the greater part of their value, and become, to use the apposite illustration of an able writer on political economy*, little better than the undigested erudition of an almanack-maker, and afford no means of judging of the truth or falsehood of a principle or rule of practice. Apparently impressed with this conviction, the eloquent Professor of Medicine in the London University, in recommending the study of mental philosophy as necessary to enable medical practitioners to perform with credit the important part of their duties connected with mental diseases, remarks; that, without it, "even experience, supposing that they had opportunities of acquiring it, which they have not, would merely impart to them a little practical dexterity, very limited, and very likely to fail them in the greatest need; it is the acquisition of principles of practice which can alone prepare them for the various, the sudden, and the alarming phenomena, which demand their attention in this department of medicine†. Even

* SAY, as quoted in Macculloch's Political Economy, p. 21.

† Conolly on the Indications of Insanity, p. 37.

to observe accurately, requires a degree of intelligence and acuteness, a freedom from prejudice, and a patience of investigation, which can be found united only in a mind constantly alive to the influence of general laws, and ardent in the pursuit of every difficulty and of every anomaly to their origin in some previously unperceived condition affecting the production of the expected result. So that, if we take it for granted that he who confines himself to simple observation, will be the most successful in the collection of trust-worthy facts, and in the discovery of important natural truths, we shall infallibly fall into error. So prone, in fact, is the human mind to go back to principles, that scarcely any thing can be perceived without some relation to general laws, or to some other better known phenomena suggesting itself; and, in this way, as has been acutely remarked by Dr Cullen, "the simplest narrative of a case almost always involves some theories," and our mode of observation being thus insensibly affected by our previous views, it becomes a point of primary consequence that these should be correct; and, accordingly, hypothetical notions are found to prevail and to satisfy the mind, in exact proportion as the intellectual powers are weak, and education and knowledge are incomplete; and well has it been said by the same author, that, in this state, "in what is commonly called experience, we have only a rule transferred from a case imperfectly known, to one of which we are equally ignorant. Hence that most fertile source of error, the applying deductions drawn from the result of one case to another case, the circumstances of which are not precisely similar. *Without principles deduced from analytical reasoning, experience is a useless and a blind guide.*"

In medicine, perhaps, more than in any other department of science, a knowledge of, and reference to principles, wherever practicable, is indispensable, for nowhere does the mere sequence of events, the *post hoc ergo propter hoc* mode of argument, so often lead into error. Even in the simplest act of the animal system, a combination of causes and circumstances is at work, the failure of one of which, in itself apparently insignificant, may vitiate the expected result, and if this source of error be not guarded against by sound directing principles, the inferences deduced may happen to be at direct variance with the truth; and it is in the habitual watching and just appreciation of all collateral conditions and differences, that an observer who is acquainted with, and acts under the direction of, established principles, shows his superiority over one who proceeds without any such guidance. The former not only collects facts for his basis, but he is more scrupulous in subjecting them to examination before

* Cullen's MS. Lectures, quoted by Macculloch, lib. cit. p. 21.

admitting them to be facts, and is more careful in investigating modifying influences, in comparing results, and endeavouring, by tracing their previously unperceived relations, to arrive at the discovery of general truths, which may be useful, not only in directing him in new emergencies, but also in amending his practice on more common occasions; while the latter may equally treasure up facts, but from want of attention to the peculiar circumstances under which they are met with, from not comparing their resemblances or distinguishing their differences with sufficient minuteness, he can never advance with certainty, or, by a fair logical inference from the facts, deduce general rules by which to provide against new or unexpected events.

Moved by such considerations as these, aware, in common with all medical men, that a knowledge of the conditions required for the healthy performance of functions, must not only precede, but direct the completion of our acquaintance with their morbid alterations; and convinced, from long observation, and often repeated experience, that Phrenology is the true physiology of the brain, I feel perfectly justified, and am assured, that the candid and unprejudiced reader will join me, in applying its principles, so far as they will go, to the farther advancement of our knowledge of mental affections, without waiting to less the benefit within our reach for the distant prospect of a greater good, which we may never live to reap, and the arrival of which, the very attempt in which we are engaged is the best calculated to hasten.

Before concluding, I must be allowed to express my gratitude to Dr Spurzheim for the great amount of useful information, derived either directly from his works, lectures, and friendly conversation, or suggested indirectly by the admirable applications of principle to the relief of human suffering, and to the acceleration of human improvement, of which his works exhibit so many examples. My aim in the present work is usefulness, and not novelty or originality; and to Dr Spurzheim, accordingly, I willingly own myself indebted for the largest portion of what will prove to be the most important ideas contained in the present pages. To the writings of Pinel, Broussais, Dr Burrows, Georget, and some others, I am also indebted, not only for numerous cases in illustration, but for many valuable practical remarks. And had not the greater part of this work been actually in print, and the whole of it written, before I could obtain access to a copy of Dr Conolly's late publication on the same subject, I should have had to express my obligations to him for many important suggestions, of which I cannot now avail myself, but for which I must refer the reader to his pages. While thus mentioning him, however, I cannot help expressing the gratification I experienced from the liberal and philosophic spirit in which he refers to the subject of Phrenology. His sentiments,

indeed, are so well calculated to disarm prejudice and recommend inquiry, that I cannot do better than subjoin what he says. In alluding to a singular inequality of understanding which gives rise to indecision of character, Dr Conolly adds, in a note : " This is not the only variety of character, of which it may occur to some of my readers that the phrenological system affords the best apparent explanation. *The facts alluded to in the text, many of the phenomena of disease, and the observation of all mankind, seem to me to prove that the first principles of Phrenology are founded in Nature.* On these, it is very probable that many fancies and errors may have been built; but now that anatomy and physiology have together penetrated so far into the separateness of structure and functions of the nerves, of the spinal marrow, and even of certain portions of the cerebral mass, *I can see nothing which merits the praise of being philosophical in the real or affected contempt professed by so many anatomists and physiologists, for a science which, however imperfect, has for its object the demonstration that for other functions, the existence of which none can deny, there are further separations and distinctions of hitherto unexplained portions of nervous matter*.*" What a contrast between the philosophic candour of such sentiments, and the unworthy criticism of another justly celebrated Professor of the same university, who, in his late work on the Nervous System (p. 222), is pleased to affirm, that " the most extravagant departure from all the legitimate modes of reasoning, although still under the colour of anatomical observation, is the system of Dr. Gall." And yet so irresistible is the force of truth to unprejudiced minds, that notwithstanding the weight of the Professor's well-earned reputation, and the natural influence exercised by a talented Teacher over the minds of his pupils, in enforcing his own opinions, and retarding the progress of those which he combats, he has actually to complain of the " popularity" of the phrenological doctrines, and of the difficulty he has felt, " during their successive importations, to keep his pupils to the examples of our own great countrymen," and, to the completion of the structure, " commenced on the labours of the Monros and Hunters, and which the undeserved popularity of the continental system has interrupted." The unprejudiced inquirer will probably discover another reason for the difficulty the Professor experiences in preserving his pupils from the contamination of Phrenology, and be disposed to believe that, in a contest for truth, no man, however great his talents, or extensive his acquirements, has any chance for success when Nature is arrayed against him.

EDINBURGH, November 1830.

* CONOLLY on the Indications of Insanity, p. 135.

ARTICLE VIII.

1. THE LORD IS AT HAND; or, THE LAST TRUMP. Third Edition. London, 1830.
2. ARTICLE AMERICA, in Encyclopædia Britannica. Seventh Edition, 1830.

THE reader may be surprised at the association of the two works which compose the title of this article, and feel some difficulty in conjecturing the connexion of either with Phrenology; but we shall not hold him long in suspense. The author of the article on America arrives, by an attentive survey of facts in Natural History, at the conclusion, that the human race is yet in its infancy, both in regard to its numbers, the development of its powers, and the perfection of its institutions; while the author of "The Last Trump," by the study of Prophecy, announces, with great confidence, that the world is fast approaching to its termination.

"The seventh trumpet," says this author, "must be the last of that series of events indicated by that symbol, and the last event which can take place in the present state of the world, because, at its sounding, the kingdom of Christ is set up. Rev. xi. 15-18." P. 6. "Betwixt the sixth and seventh vials, we are likewise informed that *three unclean spirits* go forth from the mouths of the dragon, and of the beast, and of the false prophet, to gather the kings of the earth, and of the whole world, to the great war of God Almighty, which war must take place during the seventh vial. Every one must perceive that the characteristic of the present day, is the dissemination of opinion; *aptly represented by spirits proceeding out of mouths*. The schoolmaster is abroad," &c. "The midnight cry which awakens the virgins, can be nothing but a company of preachers proclaiming the Coming of the Bridegroom, and *that cry has been made*." Revelations xiv. "seems to indicate, that it is at the commencement of that series of battles which compose the war of the great day of God Almighty, that the elect are gathered, and the rest of the world left to be the victims of offended justice." "When the saints are caught up in the air, and the salt is removed from the earth, there seems no longer any reason for, nor any means of, the preservation of the present framework of human society, which is only kept together in order to preserve the church."—Christ "is coming a second time to be admired in all them that believe, but to dash to pieces all the rest of Christendom: He is coming to trample upon them in His fury, and to stain His

garments with their blood : He is coming to pray for His enemies no more, but to repay them with vengeance." P. 21.

Many persons may be disposed to smile at these doctrines of the "Last Trump," and to regard them as rhapsodies unworthy of any serious consideration ; but similar notions made a great impression on the people of Europe at a former period, and they are now exciting many minds. The "Last Trump" is in the third edition, and there is a whole page of advertisements of similar works annexed to it. Towards the conclusion of the tenth century, the belief became almost universal in Christendom, that the end of the world was at hand. In many places, temples and palaces, as no longer needed, were pulled down and left to decay : multitudes of people, abandoning their worldly connexions, flocked to Palestine, and expected the scene of the second advent of Christ. This delusion did not abate till the following century was considerably advanced. In the present day similar expectations occupy the minds of many amiable and exemplary Christians ; and, as facts in nature may be compared with these interpretations of Revelation, we consider it a beneficial exercise of the understanding, calculated to lead to sober reflection and sound judgment, to present a few of them to the consideration of our readers.

We have frequently pointed out the grand distinction between man and the inferior animals, and it is necessary steadily to bear it in mind, in judging of the probable course of human improvement. The lower creatures are directed by Divine Wisdom as to their *manner* of acting, so that they accomplish many things, of the nature and end of which they themselves have no adequate conception. They reach at once the limits of their nature, which they never spontaneously surpass. Man, on the contrary, has received perceptive faculties, by the exercise of which he may discover the qualities of external objects ; reflecting powers, by which he may trace the combinations of causes which promote his happiness or misery ; and muscular powers and senses, by means of which he may, within certain limits, either modify and direct the operation of these causes, or accommodate his own conduct to their agency, where they are too energetic and powerful to acknowledge his control. Before man can be viewed as having attained the highest limits of his nature, he must have acquired a knowledge of the existence and qualities of the elements of physical creation which affect his happiness ; of the elements of his own nature, bodily and mental ; and he must have learned by experience, to put in operation the particular combinations of these which are best suited to ensure his enjoyment.

Man, for instance, is born without covering, but he has received constructive and reflective faculties, by the exercise of

which it is intended that he should make clothes for himself; but before the dress which he shall make shall be equally well adapted to his nature and external situation, as the wool of the sheep, or the fur of the beaver, or the down and feathers of the duck, are suited to their bodily frames and habits of life, he must become acquainted with the laws of his own physical constitution, with the qualities of the stuffs of which he makes his clothing, and with the adaptation of the one to the other. The Creator, in instituting the woolly covering for the sheep, of necessity possessed complete knowledge of the circulation of the fluids of its body, of the degree of perspiration from its skin necessary to maintain it in health, of the degree of cold and moisture to which it would be exposed, of the effect of these on its nerves, bloodvessels, muscles, bones, and secretory organs; and He framed the wool, in quantity and quality, suited to promote its welfare under all these relations and conditions. The duty is imperatively imposed on man to study all these points in his own nature, and, by his own reflection, to adjust his clothing in due relationship to them; the reward of enjoying health and vigour is offered for obedience, while the penalty of suffering inconvenience, pain, or death, is inflicted for neglect. Intelligent medical practitioners who trace diseases to their causes, perceive much suffering which owes its origin to gross ignorance and negligence in mankind, in regard to this single point. We select this merely as one physical illustration, and consider ourselves safe in drawing the inference, that, in regard to a knowledge of the qualities of external objects and their relationship to the human constitution, the great body of mankind are in the very infancy of their rational existence.

In regard, again, to Mind, they are, if possible, still farther behind. Although it is positively ascertained that the animal, moral, and intellectual, powers of man, bear a uniform relation, *ceteris paribus*, to the size of different portions of the brain, and that a fundamental requisite towards the improvement of national character and conduct, is enlargement of the cerebral regions devoted to the moral sentiments and intellect, this fact is, generally speaking, unknown. Although, also, the very circumstance of man having received intellectual and moral faculties, seems to imply that his other faculties and external nature must be so constituted, in relation to these, as to admit of their assuming and maintaining the ascendancy, yet the perception of this as the real theory of the constitution of man, is very little extended, and with the great majority even of civilized Europeans, it is treated as an incredible absurdity. How, then, can Man be supposed approaching to his close, before his rational nature has almost begun to assert its supremacy over his mere animal instincts?

If no progress had been made in past ages towards enlarging the sphere of knowledge, and elevating the standard of human pursuit, it might plausibly have been argued that the limits of improvement have been long since reached, and that nothing remained but to conclude the drama of man's existence on earth ; but the reverse of this is the fact. If we survey the faculties with which human nature is endowed, and attend to their relationship to external objects, we obtain irrefragable evidence that man is, by creation, a progressive being : he appears to be constituted so as necessarily to commence his career in helplessness and ignorance, and to rise by the exercise of the powers conferred on him, and by studying and obeying his Maker's laws and institutions, to a higher and a higher point in the scale of moral and intellectual improvement. We discover also that the past history of the race corresponds to these anticipations. Let us turn our attention to a few facts in the history of Man, and seriously judge whether they countenance the idea that he is near the close of his career.

It is admitted by the best geologists, that the physical globe must have existed for a long series of ages, before any trace of man's existence on it can be discovered, apparently preparing, by successive changes, for his reception. There is no good ground for believing that Man has existed on earth longer than the Mosaic account indicates, say 6000 years ; but this space evidently bears no appreciable proportion to the previous period of preparation, during which the Earth became successively fit for the growth of plants, and for the production of fishes, reptiles, and the various tribes of the inferior animals, ascending from the lowest in the scale to those of the most perfect character. In all this, let it be observed, there is nothing really inconsistent with the narrative of the Bible ; provided always it be conceded (as is now very generally done by enlightened theologians, who are willing to consult the volume of creation as well as the volume of inspiration) that the expression, *In the beginning*, means an indefinite period of time, and that the main object of the sacred historian is to record the history of Man, and of the Jewish nation in particular. If the human race were now at the end of its career, the prior duration of the globe, compared to his occupancy of it, would be like an overture of a thousand years to an opera of a minute.

Although a knowledge of external nature, and of himself, are indispensable to man's advancement to his true station as a rational being, yet 400 years have not elapsed since the arts of printing and engraving were invented, without which, knowledge could not be disseminated through the mass of mankind, and up to the present hour the art of reading is by no means general over the world ; so that, even now, the *means* of calling man's rational nature into activity, although discovered, are but very imperfectly

applied.—It is only five or six centuries since the mariner's compass was discovered in Europe ; without which, man could not ascertain the most common facts regarding the size, form, and contents of his own habitation, the globe.—It is only 340 years since the one-half of the habitable globe, America, became known to the other half; and considerable portions of it are still unknown even to the best informed philosophers.—It is little more than 200 years since the true theory of the circulation of the blood was discovered, previous to which it was impossible for man to form any correct idea of the uses of many of his physical organs, and of their relations to external nature.—It is only between 40 and 50 years since the true functions of the brain and nervous system were discovered, before which man possessed no adequate means of becoming acquainted with his own mental constitution, and its adaptations to external circumstances and beings.—It is only 57 years since the study of chemistry, or of the physical elements of the globe, was put into a rational condition by Dr Priestley's discovery of oxygen ; and hydrogen was discovered so lately as 1766. Before that time man was comparatively ignorant of the qualities and relations of the most important material agents with which he was surrounded. At present this knowledge is only in its infancy, as will appear by an enumeration of the dates of several others of the most important chemical discoveries. Electricity was discovered in 1728; galvanism in 1794; gas light about 1798; and steam-boats, steam-looms, and the safety-lamp, in our own day.

It is only of late years that the study of geology has been seriously begun, without which man could not know the past changes in the physical structure of the globe, a matter of much importance as an element in judging of his present position in the world's progress. This science is in its veriest infancy. An inconceivable extent of territory remains to be explored, from the examination of which the most interesting and instructive inferences will probably present themselves.—The mechanical sciences are at this moment in full play, putting forth vigorous shoots, and give the strongest indications of youth, and none of decay.

The sciences of morals and government are still in the crudest condition. At this moment many excellent persons tremble lest animal passion shall acquire the ascendancy in Europe, and extinguish all morality and religion ; while others regard the present events as the harbingers of the dawn of real civilization. These discrepant views could not exist among intelligent men, if human nature, and the theory of morals and of government, had already attained the precision of sciences.

But the most interesting and instructive of all the observations on the future prospects of the human race, which we have

Number of the whites in 1830,		21,000,000
Do.	do.	1855, 42,000,000
Do.	do.	1880, 84,000,000
Do.	do.	1905, 168,000,000
Do.	do.	1930, 336,000,000

“ As the difficulty of providing for the growing annual increment of inhabitants must increase with the magnitude of the population, let us assume that, at the end of a century, the rate of increase falls to 2 per cent. The period of doubling will then be 36 years.

Number of the whites in 1966,		672,000,000
Do.	do.	2002, 1,344,000,000
Do.	do.	2030, 2,380,000,000

“ Thus, in the short period of two centuries, the whites now in America would multiply by natural means to a mass of people three times as great as are at present on the whole surface of the globe. Let us see, however, what would be the numbers of the other classes, supposing the rate of increase to receive a similar check at the end of a century, and adding two millions of the mixed race to the Indians.

Number of the Negroes in 1930,		40,000,000
Do.	do.	2030, 160,000,000
Do.	Indians	1930, 30,000,000
Do.	do.	2030, 50,000,000

“ We have serious doubts, however, whether the civilized Indians will not follow the fate of the wandering tribes, and disappear before the superior energy of the European race, when increasing numbers bring the two classes more into competition for employment and the means of subsistence. Either this will happen, or the red race will be gradually blended with the white before it attains the magnitude which our calculations exhibit. Much more difficulty will be felt in disposing of the Negroes, with whom, on account of the deeper dye of their skins, and the taint which slavery has communicated to their blood, the whites will always be much more averse to contract alliances. Their increase, it is probable, will receive a check long before it has reached the number of 160 millions. The superior humanity developed in a well-organized society, may shelter the blacks to some extent from cruelty; but, in the long run, when stern necessity presses, weakness and ignorance must yield to intelligence and vigour. Another question, however, remains, and that relates to the number of human beings whom the new world could support. We seek, of course, only approximate results; and, in this point of view, the question is not incapable of sol-

“Paradoxical as the fact may appear, we are satisfied that the new continent, though less than half the size of the old, contains at least an equal quantity of useful soil, and much more than an equal amount of productive power.”

The useful soil in the new world is calculated to extend to ten millions of square miles. The author, to avoid all exaggeration, considers the “capacity of the land to support population, as proportional to the third power of the cosine (or radius of gyration) for the latitude. It will therefore stand thus in round numbers :—

Latitude,	0°,	15°,	30°,	45°,	60°.
Productiveness,	100,	90,	65,	35,	12½.

“In England the density of population is about 230 persons per square mile; but England is in some measure the workshop of the world, and supports, by her foreign trade, a greater population than her soil can nourish. In France the density of population is about 160; in Germany it varies from 100 to 200. Assuming, on these grounds, that the number of persons whom a square mile can properly sustain, without generating the pressure of a redundant population, is 150 at the latitude of 50°, we have 26 as the sum which expresses the productiveness of this parallel. Then taking, for the sake of simplicity, 35 as the index of the productiveness of the useful soil beyond 30° in America, and 85 as that of the country within the parallel of 30° on each side of the equator, we have about 4,100,000 square miles, each capable of supporting 200 persons, and 5,700,000 square miles, each capable of supporting 490 persons. It follows, that if the natural resources of America were fully developed, it would afford sustenance to 3,600,000,000 of inhabitants, a number five times as great as the entire mass of human beings existing at present upon the globe! The novelty of this result may create perplexity and doubt on a first view; but we are satisfied that those who investigate the subject for themselves will be satisfied that our estimate is moderate. But what is even more surprising,—there is every probability that this prodigious population will be in existence within three or at most four centuries. We are quite aware of the objections which may be raised to this conclusion, but they all seem to us to admit of an answer. In particular, we would observe, that the expense and difficulty of transporting men from situations where they are redundant, to others where vacant space exists, which is so much felt in the old world, will be incredibly facilitated by the employment of steam-navigation upon the innumerable rivers which are ramified over four-fifths of the new continent.

“The imagination is lost in contemplating a state of things which will make so great and rapid a change in the condition of

recently met with, are those contained in the article *AMERICA*, in the new edition of the *Encyclopædia Britannica*,—an article which displays admirable talent, high moral sentiment, and a vast store of valuable information, combined in its author.

“The opinion entertained in the infancy of natural history,” says the author, “that all the larger animals had spread from one common centre to the different countries where we find them, is, we believe, now abandoned by all scientific writers. It is found that every region of the globe, separated from others by well marked boundaries, or by contrasted climates, has plants and animals peculiar to itself. The vast multitude of facts now ascertained respecting the distribution of animals, can be explained on no hypothesis but one. We are forced to infer, that, after the last catastrophe which destroyed the living beings inhabiting the earth, a great variety of new animal tribes were created; that each was placed on the spot to which its powers and functions were best adapted; and that from this as a centre, it was left to spread by such means of locomotion as nature had provided it with. Some birds, for instance, strong of wing, and some few quadrupeds of migratory habits, are diffused from the west coast of Europe to the east coast of Asia; while many others, which, from their mode of life or their small size, were ill fitted for travelling, are confined within a very narrow space. Where wild animals, resembling each other, exist in regions distant and entirely separated, it is found that they are not of the same species, but are corresponding species belonging to the same genus. The horse, the ox, the antelope, the elephant, and the rhinoceros of Asia, are distinct species from those of southern Africa, where the same genera exist. This hypothesis, as Dr Prichard remarks, does not contradict the testimony of the Scriptures; it merely assumes that there were animals created subsequent to the deluge in various parts of the earth, of which it was not necessary for the sacred historian to speak.

“When this point is admitted, we are saved from the difficulty of explaining how animals which can only exist in a warm climate, should have wandered from Armenia through the frozen regions of northern Asia and America, and fixed themselves in the plains of the Amazon or the Plata, without being found anywhere in the intermediate space. No well-informed naturalist doubts now, that most of the animal tribes of the new world were created in or near the spots where we find them, and never existed in Armenia, or any other part of the old continent. This conclusion is confirmed by the only fact which presents an apparent exception to it, namely, that the few species of quadrupeds common to the old and the new world belong to the arctic region, and to tribes which are capable of bearing such a degree of cold as exists at Behring’s Straits.

“ Buffon's observation is substantially true, that America wants the larger and more perfect classes of animals. There are no congeners there to the elephant, the rhinoceros, the hippopotamus, the camelopard, the camel, and the horse. The species corresponding to the lion, the tiger, and the hyena of the old world, are much less distinguished by their strength and ferocity. On the other hand, most of those singular races which display the widest deviation from the usual laws of organization, are found in America, and some are peculiar to it; but nothing can be more wild than the inference drawn from these facts, that the inferior size or fierceness of the American animals arose from some peculiarity in the soil or climate.

“ One of the most interesting questions connected with America, relates to the increase and probable amount, at a future period, of its inhabitants. It was the astonishing progress of the United States, that first clearly unfolded the principles on which the multiplication of human beings depends. We now know with certainty that a prosperous community, possessing abundance of unoccupied land, will double its numbers in twenty-five years, without any aid from immigration; and as the scale ascends in a geometrical ratio, a short time necessarily produces a wonderful change. It is to be observed, however, that the whites, possessing the advantages of superior industry, order, and forethought, naturally increase faster than the other classes. In the United States this part of the population increases at the rate of three per cent. per annum; and when the Spanish American republics have settled down into a tranquil state, there is no doubt that their white inhabitants will multiply at the same rate. The Mexican Indians, and probably the Peruvians, have been increasing also, but slowly, while nearly all the independent tribes are mouldering away. The black population does not maintain its numbers in the West Indies; it is rather increasing in Brazil; and in the United States it grows rapidly. Setting aside the West Indies, where the Negroes do not increase, and attending to the continent merely, let us take the number of each class as it stands at present, and see what the result will be in a course of years, assuming the rate of increase to be 3 per cent. for the whites, $1\frac{1}{2}$ per cent. for the Negroes, and 1 per cent. for the civilized Indians. If the whole population is 40,000,000 at present, the continental whites will be about 16,000,000, the Indians about 9,500,000, the Negroes 5,000,000, and the mixed race about 7,000,000.

“ In Spanish America, it may be assumed that the mixed race, consisting almost entirely of mestizoes, will merge into the white, and increase nearly in the same ratio. We shall therefore add $\frac{5}{7}$ ths of the former to the latter, which will raise the whites to 21,000,000.

Number of the whites in 1830,		21,000,000
Do.	do.	1855, 42,000,000
Do.	do.	1880, 84,000,000
Do.	do.	1905, 168,000,000
Do.	do.	1930, 336,000,000

“ As the difficulty of providing for the growing annual increment of inhabitants must increase with the magnitude of the population, let us assume that, at the end of a century, the rate of increase falls to 2 per cent. The period of doubling will then be 36 years.

Number of the whites in 1966,		672,000,000
Do.	do.	2002, 1,344,000,000
Do.	do.	2030, 2,380,000,000

“ Thus, in the short period of two centuries, the whites now in America would multiply by natural means to a mass of people three times as great as are at present on the whole surface of the globe. Let us see, however, what would be the numbers of the other classes, supposing the rate of increase to receive a similar check at the end of a century, and adding two millions of the mixed race to the Indians.

Number of the Negroes in 1930,		40,000,000
Do.	do.	2030, 160,000,000
Do.	Indians	1930, 30,000,000
Do.	do.	2030, 50,000,000

“ We have serious doubts, however, whether the civilized Indians will not follow the fate of the wandering tribes, and disappear before the superior energy of the European race, when increasing numbers bring the two classes more into competition for employment and the means of subsistence. Either this will happen, or the red race will be gradually blended with the white before it attains the magnitude which our calculations exhibit. Much more difficulty will be felt in disposing of the Negroes, with whom, on account of the deeper dye of their skins, and the taint which slavery has communicated to their blood, the whites will always be much more averse to contract alliances. Their increase, it is probable, will receive a check long before it has reached the number of 160 millions. The superior humanity developed in a well-organized society, may shelter the blacks to some extent from cruelty; but, in the long run, when stern necessity presses, weakness and ignorance must yield to intelligence and vigour. Another question, however, remains, and that relates to the number of human beings whom the new world could support. We seek, of course, only approximate results; and, in this point of view, the question is not incapable of solution.

“Paradoxical as the fact may appear, we are satisfied that the new continent, though less than half the size of the old, contains at least an equal quantity of useful soil, and much more than an equal amount of productive power.”

The useful soil in the new world is calculated to extend to ten millions of square miles. The author, to avoid all exaggeration, considers the “capacity of the land to support population, as proportional to the third power of the cosine (or radius of gyration) for the latitude. It will therefore stand thus in round numbers :—

Latitude,	0°,	15°,	30°,	45°,	60°.
Productiveness,	100,	90,	65,	35,	12½.

“In England the density of population is about 230 persons per square mile ; but England is in some measure the workshop of the world, and supports, by her foreign trade, a greater population than her soil can nourish. In France the density of population is about 160 ; in Germany it varies from 100 to 200. Assuming, on these grounds, that the number of persons whom a square mile can properly sustain, without generating the pressure of a redundant population, is 150 at the latitude of 50°, we have 26 as the sum which expresses the productiveness of this parallel. Then taking, for the sake of simplicity, 35 as the index of the productiveness of the useful soil beyond 30° in America, and 85 as that of the country within the parallel of 30° on each side of the equator, we have about 4,100,000 square miles, each capable of supporting 200 persons, and 5,700,000 square miles, each capable of supporting 490 persons. It follows, that if the natural resources of America were fully developed, it would afford sustenance to 3,600,000,000 of inhabitants, a number five times as great as the entire mass of human beings existing at present upon the globe ! The novelty of this result may create perplexity and doubt on a first view ; but we are satisfied that those who investigate the subject for themselves will be satisfied that our estimate is moderate. But what is even more surprising,—there is every probability that this prodigious population will be in existence within three or at most four centuries. We are quite aware of the objections which may be raised to this conclusion, but they all seem to us to admit of an answer. In particular, we would observe, that the expense and difficulty of transporting men from situations where they are redundant, to others where vacant space exists, which is so much felt in the old world, will be incredibly facilitated by the employment of steam-navigation upon the innumerable rivers which are ramified over four-fifths of the new continent.

“The imagination is lost in contemplating a state of things which will make so great and rapid a change in the condition of

the world. We almost fancy that it is a dream ; and yet the result is based on principles quite as certain as those which govern the conduct of men in their ordinary pursuits. There are many elements of disorder now operating in Spanish America, but these are merely the dregs left by the old Spanish despotism ; and the Anglo-American republic is a pole-star to guide the people in their course towards freedom and prosperity. Nearly all social improvements spring from the reciprocal influence of condensed numbers and diffused intelligence. What, then, will be the state of society in America two centuries hence, when a thousand or two thousand millions of civilized men are crowded into a space *comparatively* so narrow, and when this immense mass of human beings speak only two languages ! We take for granted that the Portuguese will merge into the Spanish ; and it is clear to us that the Russian will never obtain a footing in the new world. Such a state of things may be said to undo the curse of Babel, and restore the great mass of mankind to their pristine facility of intercourse ; for the languages spoken by the communities of Europe and Asia will be as unimportant then, in the general scale of the globe, as the dialects of Hungary, Finland and Bohemia, are in Europe at this day. History shows that wealth, power, science, literature, all follow in the train of numbers, general intelligence, and freedom. The same causes which transferred the sceptre of civilization from the banks of the Euphrates and the Nile to western Europe, must, in the course of no long period, carry it from the latter to the plains of the Mississippi and the Amazon. When we reflect on these changes, which are not more extraordinary than they are near and certain, the conviction is forced upon us, that society, after all its advances, is yet but in its infancy ; that the habitable world, when its productive powers are regarded, may be said hitherto to have been an untenanted waste ; and that we have at present only an imperfect glimpse of the state of things under which the true destiny of man, and the grand scheme of Providence in this lower world, is to receive its full development. We are quite aware that some will smile at these speculations ; but if any one suspects us of drawing on our fancy, we would just request him to examine thoroughly the condition and past progress of the North American republic. Let him look at its amazing strides in wealth, intelligence and social improvement ; at its indestructible liberty ; and above all, at the prodigious growth of its population ; and let him answer the question to himself, ‘ What power can stop the tide of civilization which is pouring from this single source over an unoccupied world ? ’ Let him trace the laws on which this progress depends, and let him then apply them to unfold the future history of society in the new continent.”

It is not a matter of indifference what view we take of the future prospects of the human race on earth ; for the opinion formed in this respect lies at the root of many practical consequences. The spread of the mild spirit and pure morality of Christianity, and the diffusion of knowledge, afford delightful prospects, fully sanctioned by Scripture. But persons thoroughly imbued with the spirit of the "Last Trump," must, we think, have their moral sentiments and intellectual faculties directed away from the study of natural science and events, and constantly turned towards the awful, the mysterious, and sublime in Revelation. In so far as their individual efforts and influence extend, human improvement in the natural course is obstructed, or at least retarded, and the best feelings of the mind are given up to expectations of events out of the common course of nature. Individuals, on the other hand, who study the elements of human nature, corporeal and mental, and compare them with external creation, and who arrive thereby at the conclusion, that man is a rational and progressive being, feel satisfied that his past errors and sufferings resemble the diseases incident to infancy : such persons are full of good hope for the future ; and having a firm conviction that the administration of the world is conducted in conformity with the moral and intellectual faculties of the human mind, they strive to attain good by putting in operation the natural causes which produce it, and to remove evil by eradicating all practices which tend to call it forth. They perceive that the progress of the race must necessarily be slow, because the elements of nature are prodigiously numerous, their combinations infinite, and human ability limited ; but still they are animated by the belief that the Creator knew the difficulty and the extent of ability necessary to overcome it, and that He has not required of man more than He has given him powers to perform.

ARTICLE IX.

A CATECHISM OF PHRENOLOGY. Glasgow: W. R. Macphun.
London: Simpkin & Marshall. Pp. 72. 18mo.

THIS is a brief manual of Phrenology, in the form of a catechism, intended for the use of individuals who cannot bestow much time or money on the study of it. It combines accuracy, clearness, and brevity, and is scrupulously correct in doctrine. We select the following, as examples of the manner in which each organ is treated :—

" 2. PHILOPROGENITIVENESS.

" *Where is the organ of Philoprogenitiveness situated?*

" Immediately above the middle part of the cerebellum. When large, it gives a drooping appearance to the back part of the head.

" *What is the function of this faculty?*

" To produce an instinctive love of offspring in general. When the feeling is strong, the individual experiences great pleasure in beholding and caressing children.

" *Is this feeling distinct from that of Benevolence?*

" Yes. We frequently find it in those who are destitute of any compassionate feeling towards adults.

" *Is there any difference in the proportion between this organ and the brain in males and females in general?*

" Females possess it in the greatest proportion in general.

" *Are there any nations which are remarkable for a large development of this organ?*

" Yes. The Hindoos, Negroes, and Charibs, have it in general very fully developed.

" *Is it established?—Yes."*

" 12. CAUTIOUSNESS.

" *Where is the organ of Cautiousness situated?*

" Near the middle of each parietal bone. It lies in a line between *Adhesiveness* and *Love of Approbation*, but farther forward than these.

" *What is the function of this faculty?*

" To produce the emotion of fear in general. It leads the individual to hesitate before he acts, and to trace the consequences that may ensue; and thus a moderate development of it is essential to a prudent and circumspect character.

" *What are the results of the predominating energy and of the deficiency of this faculty?*

" When it predominates, it produces doubts and irresolution, and, when in a state of high excitement from internal causes, sensations of dread and apprehension, and the disease called *Hypochondria*. When it is deficient, there is a want of fear in the character, and a tendency to act without mature deliberation.

" *Where are remarkable developments of it to be found?*

" In Dr Hette and the Hindoos, where it is large. In Bellingham and Mary Macinnes, moderate. In General Wurmser, small.

" *May this faculty exist along with great personal courage?*

" Yes. Nothing is more common. Robert Bruce and Hannibal were remarkable for valour, while they, at the same time, possessed cautiousness in a high degree.

" *Is this organ established?—Yes."*

" 16. CONSCIENTIOUSNESS.

" *Where is the organ of Conscientiousness situated?*

" Towards the posterior and lateral parts of the head, on each side of *Firmness*.

" *What is the function of this faculty?*

" To produce the feelings of obligation, incumbency, and of right and wrong.

" *Is Justice the result of this sentiment?*

" Yes, when acting in combination with the intellectual powers.

" *When it is very energetic or very feeble, what are the results?*

" When very energetic, the individual is strongly disposed to act justly from the mere love of justice, and is highly disgusted at beholding an action which is in the smallest degree connected with unjust principles. When very feeble, he experiences a difficulty in perceiving the nature of justice, and is very apt to commit an unjust action under the temptations of interest and inclination.

" *Where are remarkable developments of the organ to be found?*

" In Dr Hette and Mrs H——, where it is large. In Bellingham, Haggart, and Gibson, small.

" *Is it established?—Yes.*"

After describing in this manner the different organs, the work contains "general questions," in which the effects of education, temperament, size, combinations, &c. are discussed. The modes of activity, or perception, memory, imagination, and judgment, are omitted, we presume from inability to present more matter within the small compass allotted to the work. It contains a neatly engraved copy of the Edinburgh Phrenological bust; and, on the whole, is a commendable and useful publication. It is neatly printed, and sold very cheap.

ARTICLE X.

SIR JAMES MACINTOSH AND PHRENOLOGY.

IN our last Number we accused Sir James Macintosh of having omitted all notice of Phrenology in his "General View of the Progress of Ethical Philosophy," published in the new edition of the Encyclopædia Britannica; but a friend has pointed out to us that this charge is erroneous. On page 394, under the name of "Thomas Brown," there is a reference to a footnote, which is in the following terms: "*Welsh's Life of Brown*, pp. 48; a pleasingly affectionate work, full of analytical spirit and metaphysical reasoning, of such merit, in short, that I could

have wished to have found in it no Phrenology. Objections, *a priori*, in a case dependent on facts, are indeed inadmissible. Even the allowance of presumptions of that nature would open so wide a door for prejudices, that, at most, they can be considered only as maxims of logical prudence, which fortify the watchfulness of the individual. The fatal objection to Phrenology seems to me to be, that what is new in it, or peculiar to it, has no approach to an adequate foundation in experience."

This notice certainly had escaped our observation, and we apologise to Sir James for having supposed him averse to peril his reputation by a declaration for or against Phrenology. He has considered it worthy of one sentence, consisting of twenty-nine words, introduced at the close of a note, dedicated to Mr Welsh's Life of Dr Thomas Brown! but this sentence is sufficient. We ask Sir James on what *grounds* it appears to him that "what is new in it, or peculiar to it, has no approach to an adequate foundation in experience?" Has he studied its principles, made himself acquainted with the situations and appearances of the organs, observed with care the casts and skulls in De Ville's collection, in that of the Phrenological Society, or in any other collection? Has he resorted to nature and made observations? In short, What is the extent of his own experience? He gives us no information on this point. Or has he read authentic reports of qualified observers, who have recorded their experience? We ask who they were, and where their reports are to be found? Is Mr Stone his authority? We would refer him to the published answers to his reports, and to the youngest member of the Medical Society of Edinburgh, who will inform him accurately what weight is due to his certificate of facts in philosophy. Are Mr Jeffrey, or Sir William Hamilton, or Dr Barclay, his authorities? We ask, Whether he has perused the answers to their lucubrations, and appealed to nature to ascertain whether they or the Phrenologists, report most faithfully the truth? Our humble opinion is, that Sir James has written these twenty-nine words under the impression of the mere gossiping stories against Phrenology that abound in the circles of the old school of philosophy, the contrivers and retailers of which endeavour by such small means to support the credit of their own falling reputations.

Sir James is a liberal and enlightened man, the friend of the human race, and of virtue; and it is as impossible that he could reject Phrenology, after having studied and comprehended it, as that he could root out the love of liberty from his affections, or extinguish the torch of science in his intellect. It is the philosophy of the high and pure instincts which animate him, and under the impulses of which he has ascended to the rank which he holds in the scale of moral and intellectual worth; and what the compass is to the practical mariner, would he have found

Phrenology to prove to him. We lament, therefore, that he should have been thus misled by prejudice and prepossession. He has written the history of ethical science, and stopped short at the very point where, for the first time, it acquired a substantial basis; just as if, in tracing the progress of chemistry, he should have enlarged on the pursuits and experiments of the alchemists, and regretted that the doctrines of Priestley, Cavendish, and Black, in so far as they had any novelty, possessed no foundation in experience; or as if, in a history of astronomy, he should have dwelt on the lives and methods of divination of the astrologers, and omitted all honourable mention of Copernicus and Galileo.

It is far from being agreeable to us to condemn Sir James Macintosh in such terms; but there is a duty which we owe to the cause of truth, and to the best interests of mankind, ever allied to those of truth, which renders it imperative on us to do so.

LONDON PHRENOLOGICAL SOCIETY.

THIS Society has commenced its meetings for the season. The President, in addressing the members, reverted to the present state of the science of Phrenology in England, and stated that the ridicule formerly levelled against it by prejudice and scepticism was now gradually dying away, in consequence of its receiving the support of men of talent and erudition. He alluded to the success attendant upon the lectures of Dr Spurzheim at Liverpool; and informed the Society that it was the intention of the celebrated comparative phrenologist Dr Vimont shortly to commence a course, on the science, in the metropolis. Mr Henry P. L. Drew read an account of the crimes of Dobie and Thomson, the Gilmerton carters, who were executed at Edinburgh for rape and murder, committed under the most aggravated circumstances—in illustration of casts of their heads, which he laid upon the table. A numerous collection of crania of animals from the East Indies were, through the kindness of C. R. Hyndman, Esq. (who has presented them to the Zoological Society), laid before the meeting; several remarks on their organization were made by Dr Vimont and other members, the accuracy of which was fully confirmed by various anecdotes of their individual propensities, afterwards related by Mr Hyndman. Dr Vimont communicated to the Society a plan for the modelling of a bust for phrenological purposes, upon a new and improved method. The principle adopted by Dr Vimont will not only present to the student the form given to the cranium by the development of the brain contained within it, but also that of the brain itself, and the organs as they appear on its con-

volutions, when the skull is removed. The proceeds from the sale of this bust, the model of which Mr Behnes Burlowe very kindly undertook to present to the Society, Dr Vimont intends to be appropriated for the sinking of a die, from which a gold medal is to be struck, to be bestowed on the author of the most approved Essay on Phrenology. At a subsequent meeting, Edward Wright, M. D., President, in the chair; a paper by Mr J. B. Sedgwick was read, "On the character of Humphrey, Duke of Gloucester," Protector of England during the minority of Henry VI., illustrated by a cast of the skull of that prince, from the original discovered in his tomb at St Alban's, in the year 1701. The author dilated on the advantages to be derived from the science of Phrenology in its application to the study of history, viewing it as a method (whenever the means are presented), of establishing, with truth and accuracy, the degree of dependence to be placed on the assertions of the historian. He then gave a brief outline of the eventful life of the "good duke," introducing such facts and anecdotes as might best tend to elucidate his character, and afterwards comparing them with his cerebral organization, with which they were pronounced to be in strict accordance. The whole head was said to be larger than the average size, corresponding with his mental energy. The intellectual organs were exceedingly well developed, but the greatest proportional development was at the posterior-superior, the posterior-lateral, and the posterior parts. The organs of Amativeness, Love of Approbation, Self-Esteem, Combaticiveness, Destructiveness, Secretiveness, and Firmness, were all exceedingly large, especially the three latter, which were developed to a degree seldom observed.

PROCEEDINGS OF THE PHRENOLOGICAL SOCIETY.

9th July 1830.—At an extraordinary meeting of the Society, the following Report was received. After a lengthened debate, the recommendation was adopted by the Society, the Committee discharged, and the thanks of the Society voted to them. This resolution was carried by a large majority. Mr William Scott, for himself and those who should adhere to him, protested against the resolution, for reasons to be afterwards given in.

REPORT OF THE COMMITTEE.

"On 15th April, the Society approved of the suggestion of Sir George S. Mackenzie, to exclude Theology from the discussions of the Society, when an appeal to Nature cannot illustrate it; and appointed a Committee to prepare a law to give effect to this resolution.

"The Committee having maturely considered the subject,

unanimously suggest to the Society, instead of enacting a law, to adopt the following recommendation:—

“The Phrenological Society being, not a theological but a philosophical association, instituted specially for the purpose of investigating the connexion which exists between the physical constitution of man and his internal feelings and perceptions, and thereby arriving at the true analysis of mind and philosophy of man, are desirous that their discussions should be conducted on philosophical principles only. By this they mean that the premises of an argument should be facts observed in nature, and the conclusion inferences from these facts; while the controversies of any position or argument, should occupy themselves in shewing that the alleged facts have not been correctly observed, or that they do not logically authorize the conclusion drawn from them.

“In following out, therefore, the Phrenological analysis of Mind to its metaphysical and ethical consequences, all appeal to the Sacred Scriptures *authoritatively* ought to be avoided, and the Society spared the polemical contention which arises from disagreement in interpretation among different denominations of Christians. In offering this suggestion, the Committee trust the Society will join with them in avowing their deliberate conviction, that natural truth, coming from the same author, will ever be found in harmony with the revealed Word of God, when both—but each in its own way and place—are rightly interpreted and understood.”

25th November 1830.—Mr Simpson read observations by him on Sir Walter Scott's *Demonology*. The following donations from Sir G. S. Mackenzie were presented; skulls of a dog, female otter, mole, cormorant, wood-pigeon, booby, Chinese kite, and two paroquets. Mr Combe gave an account of the progress of Phrenology in different quarters since the last meeting of the Society. The Committee for providing suitable accommodation for the Society's Museum, reported that the accommodation for it is at present inconvenient for classification and study, and that the collection is detached; but that by engaging the two rooms adjoining the Hall in Clyde Street Lane, scope will be afforded for the proper arrangement of the collection, and visitors enabled comfortably to examine the whole in a more instructive arrangement. The Committee's report was approved of, and a subscription entered into to defray the expense of fitting up the room with shelving, &c.

9th December 1830.—General meeting for the election of Office-bearers.—The Rev. David Welsh, of St David's, Glasgow, was unanimously re-elected President; Mr H. O. Watson, and Mr W. A. F. Browne, were elected Vice-Presidents, in the room of Mr Combe and Mr Neill, who go out by rotation; Mr Andrew Dun, and Mr Robert Ainslie *jun.*, were elected

Councillors, in the place of Mr. Lyon and Dr R. Hamilton; who go out by rotation; Mr William Slate was elected Secretary, instead of Mr William Scott, who resigned. The Society's thanks were voted to Mr Scott for his past services.

Ordinary Meeting.—Mr Simpson read a sketch of the life of James C. B. Hawkins, illustrative of a cast presented to the London Phrenological Society. Mr Combe read a letter to him from the Secretary of the Manchester Phrenological Society, relative to the organ of Weight. Mr William Scott, H.E.I.C.S., and Mr John Steele, sculptor, 40, Northumberland Street, were admitted Ordinary Members.

20th January 1831.—Mr W. A. F. Browne read an account of experiments performed by Monsieur J. Bouillaud, member of the Royal Academy of Medicine, Paris, proving that the anterior lobes of the brain are the seat of the intellectual powers. A letter was read from Mr Thomas Dalton, editor of the Patriot and Farmer's Monitor, Kingston, Upper Canada, accompanying a donation of the very thick skull of Beaver, a man who cohabited with his daughter, and subsequently murdered her.

NOTICES.

LONDON.—A course of Lectures on Phrenology is in progress at the Mechanics' Institution, London.

EDINBURGH.—Mr Combe devotes one hour a-week to the practical instruction of the individuals attending his Lectures this season. They are taught to observe the organs, and draw inferences for themselves; which excites great interest, and produces, along with a thorough perception of the truth of Phrenology, the ability of practically applying it.

YARMOUTH.—Mr Cox has lectured on Phrenology here.

PARIS.—Arrangements are making for the formation of a Phrenological Society here, with the view of purchasing Dr Gall's collection.

THE PHRENOLOGICAL SOCIETY AT SIDNEY has begun to lecture. The Lecturer, in his first Discourse, stated, that "Phrenology went no farther than to shew, what cannot be denied, that the mind, in our present state, cannot hold intercourse with the visible objects of the material organ."—*Hobart Town Courier*.

MANCHESTER.—A Phrenological Society has been instituted here.—The paper read to the Society on 26th November 1830, by Mr R. E., will appear in our next Number.

We have not succeeded in reducing the Essay on Measurements, sent us by our valued Correspondent near Sheffield, into such a form as would suit the Journal, and are, therefore, compelled to omit it.

Ideality and Language are displayed in "Extracts from a Phrenologist's Sketch Book;" but there is too great a want of definite philosophical ideas for publication.

The paper of ANTIPRECOCIAN on Infant Schools, with an answer to it, will appear in our next Number.

The University of Göttingen lately ordered and obtained a complete set of the Phrenological Journal. The British Museum also, after having neglected for eight years to ask for the copy which by law they were entitled to demand, at last required it; but too late. The complete sets were exhausted, and they got only the last volume. No. V. is required to complete more sets, and we again offer full price for any copies of it.

A second edition of the *Daily Record of Duties*,—Organic, Moral, Religious, and Intellectual, has been published.

THE
PHRENOLOGICAL JOURNAL.

No. XXVIII.

ARTICLE I.

ON THE RECIPROCAL INFLUENCE OF THE DIGESTIVE,
NERVOUS, AND SANGUIFEROUS SYSTEMS.

DIGESTION is the means by which aliment is communicated to the body. Food digested in the stomach then passes into the intestines, is converted into chyle, taken up by the lacteal absorbent vessels, and poured into subclavian vein near the heart: it is mixed with the blood returning from the body; it is then transmitted through the lungs, then to the heart, and then to the body.

The blood furnishes the substances of the body, deposits fibre, nerve, bone, &c.; it stimulates them to perform their functions. When a part is called into action, blood rushes into it and gives it vigour. When the blood is ill nourished, owing to imperfect digestion, bad food, or food deficient in quantity, a painful want, craving, or vacuity, is experienced all over the body, accompanied by feeble action, and a low condition of all the functions. When the blood is too abundant, oppression of the system from repletion is the result. The nerves and brain are supplied with bloodvessels, and become active by its stimulus. When a nerve is deprived of its supply of blood, it becomes insensible. This is exemplified when a nerve of the arm or leg sleeps, as it is called: this results from the nerve not being supplied with blood; the tingling sensation on recovering is the blood rushing in. The brain, as organ of the mind, is equally dependent as all the other organs on the blood for stimulus and nourishment; and hence the languor and mental depression which are experienced from stomach complaints and indigestion.

Farther, the blood requires not only the elements supplied by food, but also those supplied by air, to fit it for the purposes of

life. This is accomplished by means of the lungs, which consist of a tissue of bloodvessels and air-cells. The whole blood passes through them every three minutes. The change which the blood undergoes in the lungs is very important. It is of a dark colour when it enters them ; it gives off carbon to the air, and receives from it oxygen. It then becomes of a bright red colour. The change produced on the air by respiration shews the importance of the operation performed by the lungs. Oxygen is that kind of air which supports combustion, enters into combination with various bases in forming acids, and which performs a great part in the economy of nature. It is indispensable to the vitality of the blood. If the air supplied to the lungs is deficient in oxygen, the blood does not undergo the changes denoted externally by change of its colour. When it goes to the heart in this state, it does not stimulate the heart to contract with vigour. When the heart does not contract with vigour, the brain, stomach, nerves, muscles, in short, the whole body, is stinted in its supply of necessary stimulus, and feeble mental manifestations and bodily action are the result.

The external atmosphere, in its free and uncontaminated condition, contains the requisite portion of oxygen for vivifying the blood in the most beneficial manner. The necessities of the blood and the atmosphere are nicely adapted to each other ; for if the proportion of oxygen be diminished, the vitalizing power of the air is decreased, and life becomes feeble ; if the proportion of oxygen be greatly increased, the blood is not benefited in proportion, but is over-stimulated, and rendered less salutary in its action on the body. To preserve the blood, therefore, in the best condition, it is essentially necessary that breathing be performed in an atmosphere as much in the pure and natural state as possible.

But the proportions of gases in the atmosphere are liable to variation from different causes. The quantity of carbonic acid gas is increased by combustion, by fermentation, by the breathing of animals ; and so fatal is carbonic acid gas to life, that one-tenth part of it mixed with the atmospheric air will produce death.

Hence if we sleep in an apartment in which coals or wood have been burning, without the carbonic acid gas produced by the combustion being carried off by the chimney, death may ensue. If we sit in a ball-room or crowded theatre, in which a hundred lamps are consuming oxygen, and pouring out carbonic acid gas into the atmosphere, and a thousand pair of lungs are performing a similar operation, we shall breathe a vitiated atmosphere, that is, air in which the proportion of oxygen necessary for vitalizing the blood is not present ; the blood in consequence will pass into the heart imperfectly purified and vivi-

fied, it will give a feeble stimulus to the heart, the heart will contract feebly, the blood will be conveyed to the brain and other portions of the body deficient both in quality and quantity, mental and bodily languor and depression will ensue, and next day we shall feel feeble, inanimate, and wretched; because then the whole frame is suffering from the irrational treatment of the previous evening.

Dr Holland has recently written an ingenious work on the effects of respiration. In removing irritation, in vivifying the brain and body, and in exhilarating mind, a free and vigorous respiration is an efficient agent. When children cry, they exercise the lungs. In grief, when we weep, we do the same. The whole system is relieved. Silent sorrow kills.

Let us next inquire into the influence of the nervous system. On examining the spinal marrow, we find it to be a large nervous cord, giving out nerves at every part, ramifying all over the body; and we see a variety of nerves descending directly from the brain and ramifying on the throat, lungs, stomach, diaphragm, and other parts. Now, the office of some of these is to convey motion; of others, to convey sensation; and of a great number to convey a certain stimulus, the nature of which is not known, but which is indispensable to life and action in every part of the body. Nervous stimulus is as necessary to vitality as supply of blood. "The bloodvessels of a palsied limb begin to diminish shortly after the attack; its supply of blood lessens as its power sinks; emaciation keeps pace with impaired sensibility, and mortification is not unfrequently the consequence of a paralyzed circulation."—*Animal Physiology*, p. 79.

The great importance of the nervous influence to the healthy action of the body is illustrated by many facts. If we are just sitting down to table with a healthy appetite, and in the near prospect of enjoying a good dinner, when a severe calamity or some distressing accident is announced to us, appetite fails, food becomes loathsome, or, if we proceed with our meal, all relish is gone, and digestion is very imperfectly performed. There is no doubt that the physiological cause of this change is, that the bad news excite into vivid action the organs in the brain, say Cautiousness, Benevolence, Adhesiveness, or Acquisitiveness if loss of property is concerned; and this extra excitement attracts, as it were, the nervous stimulus and blood to the organs so excited, disturbing the supply to the organs of respiration and digestion, which ought then to have received an additional supply. It has been maintained by some physiologists, that the stomach receives a direct nervous stimulus from the brain, without which it does not digest. Dr Holland has lately maintained that the nervous stimulus is communicated by a branch.

of the 8th pair of nerves directly to the lungs ; that the consequence of mental agitation and depression is to diminish the supply of nervous energy sent to them, in consequence of which they act feebly, become overloaded with blood, producing oppression at the chest and heart ; and that it is the want of good blood in abundant quantity in the substance of the stomach which is the cause of the indigestion accompanying mental anxiety.

Be the nervous influence communicated directly from the brain to the stomach, or directly from the brain to the lungs, and thence to the stomach, the main fact is certain and indisputable, that every painful affection of the brain does, by means of the nerves, affect the action of the lungs, heart, stomach, and all other parts of the body, lowers their action, and impairs the powers of life. Hence great and silent grief is accompanied with constant painful action in the brain ; the nervous influence which ought to stimulate the lungs, heart or stomach, is impaired or withheld ; their functions languish ; they are overloaded with ill-fed and ill-vivified blood, and a broken heart is no metaphor, if we substitute the word function for substance, that is, the function of the heart is broken, and the whole system pines under the impaired action of its vital organs, till death may at last ensue.

How obvious do these facts render the relief afforded in cases of mental depression by change of scene and exercise ! Change of scene and company force other organs of the brain into action, and thus relieve those that were the seat of sorrow ; exercise causes the lungs to act, and their action improves the vitality of the blood ; the improved vitality of the blood stimulates the heart, the stomach, the brain, and the whole system ; appetite returns, the spirits rise, and mental and bodily vigour reappear.

Mr Bell mentions that the nerves, if not exercised, become less firm, and more watery in texture and appearance ; when they are inactive, a low tone of energy pervades the system ; and when too active, excessive excitability and sensibility are the results. The individual is then agitated all over by the slightest impressions from without, respiration is troubled, motion is difficult and unsteady, while internally feelings and thoughts flit through the mind with ungoverned vivacity and rapidity, feeble yet harassing, apparently of great import, and yet ending in nothing. In short, debility of the nervous system, including the brain, is synonymous with disorder of every function of body and mind, and is attended with every form of misery which a human being can endure and yet live.

The nervous and circulating systems are the great fountains of life and action ; and the bones and muscles are, as it were, the substratum for supporting them and allowing their action. The

Bones are the pillars of the system. When the individual neglects exercise, and allows the blood to be imperfectly nourished, the bones suffer in the general deterioration of the system. They become smooth, soft, feeble, and incapable of great resistance. When, on the other hand, the whole system is kept in the full play of health, vigour, and alacrity, the bones are firm, compact, hard, and capable of sustaining great efforts, and offering great resistance.

The *muscular* system is subject to the same laws. It is the instrument of all motion, voluntary and involuntary, and all active power depends on its healthy condition. Muscles are nourished by blood, and stimulated by nerves; they therefore partake of the general condition of those systems: but, in addition, in every act which they perform they draw to them an increased quantity of blood and nervous stimulus; so that, if never exercised, or rarely exercised, they sink in vigour from deficient supply both of blood and nervous energy, and, if exercised duly, they acquire additional strength by increased supplies of those principles of vitality.

A highly important physiological law here presents itself. Every part of the system, when exercised, attracts to the organs employed an increased supply of blood and nervous energy. Hence if we exercise the mind vigorously, and allow the body to rest, we attract an extra supply of blood and nervous energy to the brain, and subtract from the just proportion which ought to be sent to the muscles, lungs, digestive organs, and heart. The consequence of this system, if persevered in, will be exaltation of the cerebral and mental functions, and debility of all the corporeal functions. From the dependence of the brain on the latter, after a short time, the brain will be involved in the disorder, and feebleness of mind will be the sequence to impaired vitality in the corporeal functions.

If, on the other hand, we constantly exercise the muscles in hard labour, and rarely exercise the mind, the constant tendency of the blood and nervous energy will be towards the mere substratum of man, to his bones and muscles; he will acquire great strength in them, but his brain being unexercised, and left deficient in relative supply of blood and nervous energy, he will think and feel feebly. He will, in short, resemble a horse: it has a small brain in relation to its muscular system, compared with man; it is therefore muscular and a beast of burden, but not capable of much mental exertion. Man treated in the same way becomes capable of enduring vast fatigue; but he becomes also obtuse in intellect, dull in feeling, and descends from his condition of a moral and rational being to that of a labouring animal. These are not speculative ideas, but practical principles. It is on them that the physician acts when, in

cases of over mental excitement, he orders the patient to undergo great muscular exertion in the open air. This reduces the action of the brain. We all feel that after a very long walk we cannot think with success. The soldier of the 71st Regiment who wrote his life said, that by constant marching and exposure to the air he became a fighting machine, and ceased to think and feel.

While, therefore, the brain and nervous system cannot be maintained in activity without the due exercise of the bones and muscles, and while the over excitement of the brain brings disorder upon the bones and muscular system, it is equally certain that over exercise of the muscular system impairs the functions of the brain, and renders it unfit to manifest with full success the moral and intellectual faculties, which constitute the chief glory of man.

Finally, The absorbent vessels and skin remove the waste matter from the body, and they perform their functions with success only when the blood and nervous systems are in healthy action, and when the whole system is duly exercised and preserved in a condition befitting its nature; in other words, cleanliness and moderate temperature, in addition to exercise, are essential to the due execution of these functions. If they are not duly executed, the general system gets loaded with impurities, and impeded by superfluous matter. A spoiled tooth, if the caries be absorbed, will derange the whole functions of the body.

These laws of our constitution are admirably adapted to our circumstances on earth. We are gifted with many high and noble powers of thinking and of sentiment, which are in this world in close dependance on our bodily frame. If we exercise them duly, we promote directly the growth, nutrition, and health of the whole system, and at the same time experience the highest mental gratification of which a human being is susceptible, viz. that of having fulfilled the end and object of our being in the active discharge of our duties to God, to our fellow-men, and to ourselves. If we neglect them, or deprive them of their objects, we weaken the organization, give rise to distressing diseases, and at the same time experience the bitterest feelings that can afflict humanity—ennui and melancholy. The harmony thus shewn to exist between the moral and physical world is but another proof of the numerous inducements to that right conduct and activity, in pursuing which the Creator had evidently destined us to find terrestrial happiness and comfort.

ARTICLE II.

CASE OF MENTAL DERANGEMENT, ACCOMPANIED BY
CEREBRAL DISEASE.

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

SIR,—If you think that the following case possesses sufficient interest for insertion in your Journal, it is very much at your service. I am, Sir, your obedient servant,

FORBES F. FAVELL, M. D.

Sheffield, December 15. 1830.

I HAVE perused with much pleasure the essays which have appeared in your Journal, on the causes of mental derangement, from the pen of Dr A. Combe; and since I conceive that the following case, which occurred in my own practice only a short time ago, affords an excellent illustration of the principles which he has laid down, and shews as clearly as an individual case can, the dependence of diseases of the mind on disease of the brain, and the power which moral causes occasionally have in exciting such diseases, I have been induced, at the suggestion of my friend Dr Holland, to transmit to you the particulars.

On the 18th of October 1830, I was requested to visit Mrs M., who I had some months before attended on account of a small scrofulous ulcer on the great toe. When I called upon her I was surprised at her altered appearance; she had now a vacant stare, and a dejected look, which were by no means usual to her; and although she knew me, and correctly answered all the questions which I put to her, still it was evident, both from her appearance and manner, that her mind was "ill at ease." She made use only of monosyllables, denied the existence of any pain, and was adverse to even the slightest exertion. Her pulse was regular at about eighty,—she slept well at night,—the appetite was good, and all the various excretions were regularly performed. I understood from the friends that she had been in this state for three or four months; but in consequence of her making no complaint, they thought that she was merely "low spirited," and therefore they had neglected procuring medical advice. They said that they were not aware of any cause which could be assigned, sufficient to account for her present condition; but they thought that it must have been occasioned by the toe, to which I have already referred. Not being satisfied, however, with the information which I could obtain from her immediate

connexions, I questioned her neighbours as to their knowledge of any thing which had, within the last few months, caused Mrs M. much mental inquietude.

From this source I learned, that for the last six months Mr and Mrs M. had not lived happily together; she had taken a strong dislike to some children of his which he had by a former marriage, and which she now wished him to send elsewhere; to this he very reasonably objected, and frequent quarrels and great domestic infelicity had been the consequence. From the symptoms and history of the case, I was of opinion that much good was not to be expected from medicine; I therefore laid down such rules for exercise, society, &c. as I thought should be observed, and I determined to watch its progress.

On the 19th and 20th she appeared to be in the same state, except that she had now a greater aversion to exercise; and on the latter day I could not procure from her any answer to the questions which I thought it right to propose. Her friends said, that she continued to eat, drink, and sleep well, but that during the whole day she would sit in a corner and take no notice of whatsoever was going on in the house. It was on the 22d that I happened to call during dinner time, and I shall not soon forget her appearance on that occasion. She was set near the table, whilst her husband was carving a fowl, and as soon as he had taken off a leg, she immediately seized it, tore it to tatters with her fingers, and filled her mouth with the flesh, which she continued masticating for nearly a quarter of an hour. I staid with her for a considerable time, asked her various questions about herself, the fowl, her friends, &c. but all to no purpose, she would not allow a syllable to escape her. She had this day a large blister put down the nape of her neck, and reaching down betwixt her shoulders. On the 23d I saw her again, she was now very unwell and in bed,—her pulse had risen from 80 to upwards of 100,—her skin was hot, and the bowels had not been moved since the 21st. She would not allow me to see her tongue, and when I attempted a second time to feel her pulse, she made considerable resistance. I asked her if she had pain in her head, but I obtained no answer, and she continued to take no notice of whatever was done by the bystanders. Had I been ever so anxious to have had recourse to venesection, it would have been impossible to have performed the operation, from the manner in which she kept the forearm bent upon the humerus. She had a number of leeches applied to the temples and forehead. A purging draught was ordered to be given immediately, and a mixture with camphor and aq. ammon. acet. every three hours. I saw her the next day, the 24th. She had passed a restless night, her pulse was beating 130 strokes in a minute. The bowels had been

freely moved, but they had not been able to give her more than one dose of the mixture. She would now answer me any question which I put to her, and complained of pain in the head. An additional number of leeches were applied to the temples, and cold cloths to the forehead. She died in the evening. On the following day, I obtained permission to open her head, which I did in the presence of my friends Dr Holland and Mr Gregory. There was nothing particular to be observed on the dura mater nor in the sinuses; but on the outer covering being removed, we perceived very evident traces of inflammatory action in the arachnoid membrane, which was opaque and redder, with depositions of coagulable lymph. But the most interesting and important appearance was in the brain itself,—*the whole of the anterior lobe was in a state of disorganization*, presenting an unnatural greyish aspect; and the cerebral substance itself was so soft, that even the slightest touch was sufficient to destroy it. It is impossible to give an accurate description of it by words, but it has never fallen to my lot, and it had never fallen to the lot of either of my friends, to witness such extensive mischief. But it was most interesting to observe, that the *disease was entirely confined to the anterior lobes*; all the rest of the brain and cerebellum, from the fissure of Sylvius backward, being quite healthy, and as firm as any brain I ever dissected.

Now, how far do the appearances which we observed on dissection throw light upon the case? It appears to me clear, that the disease in the anterior lobes was not the consequence of any general inflammatory action in the brain,—else why was not the brain more extensively diseased? It was unconnected with the affection of the arachnoid, because the arachnoid presented similar appearances in every part of its extent; and the inflammatory affection of this membrane (which was the immediate cause of death) did not commence, I apprehend, till the 23d, whereas she had been labouring under disease for several months previously. Is it not most reasonable to consider that the unhappy differences which occurred in the family were the cause of the appearances which we observed in the anterior lobes of the brain; and that the effect of this was the state of mental alienation, in which she existed for the last several months of her life?

ARTICLE III.

ON THE FUNCTIONS OF THE ORGAN OF WEIGHT. Read to the Manchester Phrenological Society, on 26th November 1830, by Mr RICHARD EDMONDSTON.

THE object of this paper is to draw attention to the organ of Weight, marked No. 22 in the Edinburgh casts, and to mention some observations recently made by my brother and myself. Mr Combe, in his System of Phrenology, states the special function of this organ to be the power of judging of momentum, specific gravity and resistance; but we are inclined to think, and our own observations justify us in presuming, that there is another attribute or quality in bodies which has been overlooked, and one which this organ specially takes cognizance of. It is the perception of the position of objects, relative to their centre of gravity. Take, for example, the spire of a church or the chimney of a factory, and examine it phrenologically. Individuality perceives its existence, Form its shape, Size the quantity of space occupied by it. Now, according to the old idea, we are either at a non-plus, or we must pass over the function of weight altogether. The chimney and the steeple are at rest, and we must ascertain of what materials they are composed, before we can guess of what specific gravity they may be. As anatomy, however, informs us, that the optic nerve is as intimately connected with this organ as with any of its neighbours, it must in its functions be equally connected with vision or simple perceptions; and this is the fact, as far as my own observations have extended. Let us again take the tall chimney as an example.; Individuality perceives its existence; Form its shape; Size the quantity of space occupied by it; Weight its position to or from its centre of gravity,—that is, whether it stands perpendicular or otherwise; Colour perceives its hues and tints, and so on. Here all is beauty and harmony, and in perfect consistency with the rest of the science. The nature of the evidence in support of this view of the subject will be found quite conclusive to any unprejudiced mind, and it is attainable by the most careful observer. It is as follows:—Persons with the organ of Weight large instantly perceive the slightest inclination of any object, from perpendicularity, &c., in whatsoever degrees and proportions the rest of their perceptive organs may be developed. On the other hand, persons deficient in this organ are utterly unable to detect a slight deviation from the perpendicular, &c., however large the neighbouring organs may be. One out of many examples of each case must for the present suffice. A gentleman of this town, who is no mechanic himself, but employs a number of mechanics under him, possesses the organ in question very large, and he has fre-

quently detected errors of this kind, when they have been so very slight, that the workmen themselves have disputed his judgment, and nothing but proof could convince them of their error. Order and Colour are both small in his head ; Form and Size are large, and Weight, as before stated, very large.

A mason, residing in the country, who is deficient in this organ, is totally unable to perceive a very considerable deviation from perpendicular. He is, when he uses the plumb-line, a very excellent workman, but not at all to be depended upon for correctness when working without it. His Form, Size, and Order are large. This evidence is sufficient for my present purpose, for observation will furnish you with abundance. You will see some-sign painters and landscape-drawers who will instantly, and without the least difficulty, strike their lines with astonishing correctness, and these you will find to possess the organ of Weight large. Others you will find unable to perform this ; and if you come to examine their work, suppose it be letters on a sign-board, if you have this organ large, you will see one part which ought to have been perpendicular inclining to the right hand, and another to the left, in awkward confusion. These you will find deficient in the organ under consideration. Again, we are told in phrenological works, that a diseased affection of this organ unfits the patient for perception of position ; floors and ceilings appear in inclined positions, perpendicularly at other angles ; &c., and this is strong evidence in favour of my argument. Again, the view now offered agrees perfectly with our feelings, as the perception of form and size agrees with our feelings of form and size. For instance, if we close our eyes and examine by the hands any upright or inclined body, the impression left on the mind will exactly agree with our perception of the body through our vision. Thus we have a perception and a feeling of position in the same way as we have a perception and feeling of form and size.

There is another, and perhaps the most important, view in which this argument may be examined, viz. its relation to the fact made known to us by anatomy, of the inverted position in which objects are reflected ; a satisfactory explanation of which phenomenon has never been offered. I am confident that Phrenology will some way or other offer a correct and philosophical elucidation of this hitherto mysterious fact ; and I have little doubt that the organ in question will eventually be found intimately connected with it ; for if, as evidence proves, a person deficient in this convolution of the brain, is, through that deficiency, rendered incapable of correctly perceiving the relative positions of objects from or to their centre of gravity, we may, I think, safely conclude, that a total absence of this organ would utterly incapacitate for perception of position altogether ; and if so, we find this organ of high importance, as the rectifier of our vision relative to position of all bodies or objects whatsoever.

ARTICLE IV.

ON INFANT SCHOOLS.

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

SIR,

THERE is in Phrenology so much sound doctrine, and it has all along been expounded with so much candour, temper, and capacity, that it is with great hesitation I venture to dissent from any of the theorems propounded by its propagators; but whenever I read an article wherein Infant Schools are eulogized, I feel as if treading upon holy ground with unhallowed feet. The link which connects parents with children appears to me too sacred to be made the subject of experiment. I admit, that from the earliest period, we are susceptible of impressions which may ultimately be attended by the very best or the very worst consequences, and that, therefore, unremitting attention is required; but if parents cannot be intrusted with this department, I do not see that much can be expected from hirelings. What may be effected by such an enthusiastic and gifted individual as Mr Wilderspin, is hardly worthy of consideration;—the question is, how will the system work when consigned to ordinary mortals? The natural tendency is, I think, to deracinate both parental and filial affection. When children do not look up to their parents, they cannot be said to have a home, the most comfortable of all considerations; if no home, there can be no country; if no country, then no patriotism. I know it has been said, that great men are of no country; but this refers to the man of the million, and it is only of the million that I am speaking. Again, when parents get rid of their children while they are yet in a helpless state, will not the tie be proportionally slackened; and will they not thus be prepared for being transferred to work-shops, as so many mere implements hired out for the benefit of the parents? It astonishes me that you, who so feelingly and justly expose the abominable practice of employing so many youths in eternal attendance upon stupifying and stifling machinery, should so strenuously advocate the cause of infant schools, which appear to me as part and parcel of the same system; but to be sure, if life is to be spent in working 15 hours out of every 24, the other 9 are quite little enough for eating and sleeping; consequently any education which would induce thinking, would be worse than none; and therefore it is perhaps as well to have them converted into puppets as soon as possible; and for this purpose infant schools are exceedingly

well adapted. The laws and constitutions of the fraternity or caste to which they may be attached can be readily acquired without any cessation of labour. To most children, the bare idea of a school, and every thing belonging to it, inspires a kind of horror; and why torment them before the time? The vile school bell's appalling knell has rung in my ears for more than half a century; and as for the notion of instructing children to be happy by square and rule, and that they shall all be ready to embrace the same kind of amusement, at the same instant, at the signal given by the master, I suspect it will make more merriment to readers than pupils. I do not say with Cobbet, that boys should learn nothing but fishing and fowling till they are thirteen, but surely five is early enough for the infliction of tasks. Whatever is got by rote is seldom more thought of,—how many, even to the end of their lives, take into consideration the meaning of the ready made questions and answers in the common catechisms? and what merit can any one have in blindly adopting the opinions of masters, who have themselves, in all probability, received them without examination, or it may be contrary to the dictates of their own reason? I have no doubt, that the organs of the mind, as well as those of the body, are strengthened and improved by proper exercise, in proper season; but it is admitted, that those of the intellect do not attain maturity in general before the age of twenty, and upon them every thing depends. Excepting, therefore, a ready use of letters and figures, as far as they may be used without thinking, I see not the meaning of all this fashionable haste. Is there no truth in the adage, “soon ripe soon rotten?” and are we sure that this dilemma may not be induced artificially? May not the mental organs, as well as those of the body, be stunted by too early exertion? Upon the whole, one infant school in a county might perhaps be tolerated; but the pupils, I think, should be restricted to orphans, or the children of parents who have been convicted of palpable malpractices, or, since it must be so, those destined to become implements and utensils in manufactories. But I may have been warped by what I saw and suffered from five to fifteen, when attempting to learn what I could neither comprehend nor remember; and these may be only the captious reveries of an irritable superannuated

ANTI-PRÉCOCIAN.

We are induced to give a place to the foregoing letter, because it has the merit of containing, in a few words, all the current and *prima facie* objections on which the prejudices against infant schools are founded;—prejudices, however, which are fast giving way to information as to what infant education essentially is, and, above all, to the advantage of actually seeing the system in operation.

ARTICLE IV.

ON INFANT SCHOOLS.

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

SIR,

THERE is in Phrenology so much sound doctrine, and it has all along been expounded with so much candour, temper, and capacity, that it is with great hesitation I venture to dissent from any of the theorems propounded by its propagators; but whenever I read an article wherein Infant Schools are eulogized, I feel as if treading upon holy ground with unhallowed feet. The link which connects parents with children appears to me too sacred to be made the subject of experiment. I admit, that from the earliest period, we are susceptible of impressions which may ultimately be attended by the very best or the very worst consequences, and that, therefore, unremitting attention is required; but if parents cannot be intrusted with this department, I do not see that much can be expected from hirelings. What may be effected by such an enthusiastic and gifted individual as Mr Wilderspin, is hardly worthy of consideration;—the question is, how will the system work when consigned to ordinary mortals? The natural tendency is, I think, to deracinate both parental and filial affection. When children do not look up to their parents, they cannot be said to have a home, the most comfortable of all considerations; if no home, there can be no country; if no country, then no patriotism. I know it has been said, that great men are of no country; but this refers to the man of the million, and it is only of the million that I am speaking. Again, when parents get rid of their children while they are yet in a helpless state, will not the tie be proportionally slackened; and will they not thus be prepared for being transferred to work-shops, as so many mere implements hired out for the benefit of the parents? It astonishes me that you, who so feelingly and justly expose the abominable practice of employing so many youths in eternal attendance upon stupifying and stifling machinery, should so strenuously advocate the cause of infant schools, which appear to me as part and parcel of the same system; but to be sure, if life is to be spent in working 15 hours out of every 24, the other 9 are quite little enough for eating and sleeping; consequently any education which would induce thinking, would be worse than none; and therefore it is perhaps as well to have them converted into puppets as soon as possible; and for this purpose infant schools are exceedingly

well adapted. The laws and constitutions of the fraternity or caste to which they may be attached can be readily acquired without any cessation of labour. To most children, the bare idea of a school, and every thing belonging to it, inspires a kind of horror; and why torment them before the time? The vile school bell's appalling knell has rung in my ears for more than half a century; and as for the notion of instructing children to be happy by square and rule, and that they shall all be ready to embrace the same kind of amusement, at the same instant, at the signal given by the master, I suspect it will make more merriment to readers than pupils. I do not say with Cobbet, that boys should learn nothing but fishing and fowling till they are thirteen, but surely five is early enough for the infliction of tasks. Whatever is got by rote is seldom more thought of,—how many, even to the end of their lives, take into consideration the meaning of the ready made questions and answers in the common catechisms? and what merit can any one have in blindly adopting the opinions of masters, who have themselves, in all probability, received them without examination, or it may be contrary to the dictates of their own reason? I have no doubt, that the organs of the mind, as well as those of the body, are strengthened and improved by proper exercise, in proper season; but it is admitted, that those of the intellect do not attain maturity in general before the age of twenty, and upon them every thing depends. Excepting, therefore, a ready use of letters and figures, as far as they may be used without thinking, I see not the meaning of all this fashionable haste. Is there no truth in the adage, “soon ripe soon rotten?” and are we sure that this dilemma may not be induced artificially? May not the mental organs, as well as those of the body, be stunted by too early exertion? Upon the whole, one infant school in a county might perhaps be tolerated; but the pupils, I think, should be restricted to orphans, or the children of parents who have been convicted of palpable malpractices, or, since it must be so, those destined to become implements and utensils in manufactories. But I may have been warped by what I saw and suffered from five to fifteen, when attempting to learn what I could neither comprehend nor remember; and these may be only the captious reveries of an irritable superannuated

ANTIPEECOCIAN.

We are induced to give a place to the foregoing letter, because it has the merit of containing, in a few words, all the current and *prima facie* objections on which the prejudices against infant schools are founded;—prejudices, however, which are fast giving way to information as to what infant education essentially is, and, above all, to the advantage of actually seeing the system in operation.

We presume our correspondent has never seen a *Wilderspin* infant school; but having read, as he confesses, a very full analysis of the system in this Journal, and being moreover a phrenologist, we cannot include him among the non-informed; but we do marvel at his entire misapprehension of what we flattered ourselves we had made sufficiently plain.

As our correspondent has not been particular in the arrangement of his objections, we shall use the freedom to take them in the order that best suits our answer. 1st, The first which we shall notice is concentrated in his assumed signature. According to him the infant school system is a hot-bed of precocity; an unmeaning and hurtful haste to ripen what will be the sooner rotten, and a mere parrot-training, useless, and annoying course of tasking minds too young to reap any advantages, or even to comprehend what is taught. Our best answer would be an entreaty, that the imager of this objection would read again the long article in our 24th Number. It is there distinctly stated, that the infant mind has feelings as well as intellectual powers,—that education of the feelings, or, to speak phrenologically, the regulation of the propensities, and exercise of the moral sentiments,—on which the happiness of the individual and the welfare of society depend, infinitely more than on the highest accomplishment merely intellectual,—form the paramount and primary object, and end of the infant school system. Again, it is distinctly laid down, that these feelings are incomparably more easily bent and moulded to good in infancy than in after years; and experience has shewn, that, in the vast majority of individuals, it is a matter of greater difficulty than there exists any known means in society to overcome after six years of age. To delay this, till the time when Antiprecocian would begin, would be to leave it out of education altogether, and this to the heavy cost of society has been hitherto the ignorantly adopted alternative.

While moral training is the primary object of infant schools, and, in respect of its only practicable period of life, requiring that the schools for it should be schools of *infants*, it has been found possible and advantageous to engraft upon that training an intellectual culture suited to the tender age of the pupils. No person could have read Mr Wilderspin's book, or even our own paper, but, above all, *seen* an infant school, and for one moment persisted in asserting that even the intellectual training is injudicious, premature, annoying to the children, and useless. It is applied on principles which Phrenology perfectly sanctions and advocates. The intellectual faculties—and ALL the intellectual faculties (not one or two, as in the schools of which Antiprecocian speaks with such horrific reminiscence)—are moderately exercised, so as to produce amusement and not drudgery; and, by being presented with their proper objects, they take

cognizance, and enjoy complete comprehension, of every thing so presented. They have much more of play than even of their amusing *study*; for it is given in brief portions; these portions themselves enlivened and varied with story, and song, and fun. The play-ground is the school at once of moral practice and healthful exercise, with the accessory accompaniments of cleanliness, and the rudiments of refinement. Antiprecocious must positively come to Edinburgh, and spend some hours in the Vennel School; and if the little bell which alternately summons between two and three hundred willing, happy creatures, from play in the yard, to play in the school-room, and *vice versa*, shall recall the fearful school-bell of his younger days, for one moment, to his memory, we will give up to him the controversy.

We took the moral and intellectual advantages of infant education upon testimony before we saw it tried in Edinburgh;—an undoubted testimony certainly, adducing the experience in England of fourteen years, with some hundred schools, and above 20,000 children; but the heart-improving spectacle we see in Edinburgh exceeds even the most sanguine anticipations which, as phrenologists, we formed of the direct exercise of the moral faculties, and the judicious preparatory training of the intellectual. We have not only witnessed in full operation all we have stated, but we have seen what we are informed will be laid before the public in the forthcoming Report of the Edinburgh Society (the details of which we are therefore not at liberty to publish) on the one hand, a record kept by the master—not of his *opinions*, but of *facts*, the incidents and living events of the school, shewing in the children, and these of the lowest and most neglected classes, the practical operation of Benevolence, Truth, Justice, Honesty, Self-denial, Respect, and Attachment, to a degree which we have not had the happiness to see *elsewhere* exemplified, and, moreover, which is not to be attained by mere precept anywhere, and never after the tender age of our infant pupils. A visit to the school is the best mode of learning the intellectual benefits derived; and no one, we are sure, ever left its door impressed with the idea of tasking, parrotting, and cramming; or with any other feeling than a conviction that the kind of knowledge communicated is the very best, and the most suitable to the infant mind; and, if the visitor be a phrenologist, he can tell the reason. On the other hand, we have seen, what will also be made public, numerous letters from the parents, expressed in the strongest terms of gratitude for the change made upon the dispositions, manners, and habits of their children, in the few months they have been at the Infant School; their obedience, tractableness, obligingness, truth, honesty, cleanliness, and cheerful happiness; their delight in school, from which it is a punishment to keep them, even when unwell; and their at-

tachment to the teacher, which seems most of all to astonish the letter-writers, as it certainly must our correspondent. The teacher himself has informed us, that he is watched by the children when he walks out, and has never less than ten or a dozen of them as volunteers at his heels; to the wonderment, loudly expressed, of the Irish women in the Westport and Grass-market. Antiprecocian must have read that *love*, not *fear*, is the engine of the infant school system.

2d, These letters of the parents remind us of the next objection of Anteprecocian, which we beg to notice;—one so common and so unreflecting, as—with great respect for him we say it—to sound in our ears as the very slang of the opposition to Infant Schools. They break, it seems, the hallowed bond which unites the parent and the child; they alienate the heart of the infant from its *proper* guardian, and take away from the latter all motive for parental solicitude; in short, to use our correspondent's more learned phrase, “they deracinate both parental and filial affection.” Before saying a word in the way of a *priori* argument, on this most important point, we again refer to what we have seen in these letters as the very best evidence of the working of the system in this particular. The letters dwell with pleasure upon the improvement perceived in the children in love for and concern about their parents. Obedience and obligingness are the every-day fruits of this improvement;—for it is not only no eradication of the virtue which may have formerly existed, but the implanting of it not formerly existing; and there is that beautiful reaction,—so eloquently alluded to by the present Lord Advocate, in his never-to-be-forgotten speech at the formation of the Edinburgh Infant School Society,—which, through the affectionate influence of the child, insensibly reforms, and christianizes the parent. The result of the moral improvement of the children, and their more comfortable intercourse with their parents, brings necessarily an increase of the force of parental love,—in most instances naturally too strong for even waywardness and temper, and every childish repulsive habit to conquer. Accordingly, the letters speak of the fact with gratitude, that the children who used to be a nuisance at home, are now a pride and pleasure; and the parents look for their return from school as the most cheerful hour of the day. After this, it is surely superfluous to our readers, and not less so, we feel assured, to our correspondent, to point out the common extravagant overstretching of this objection of alienation of affection, when it is attributed to a separation for six hours in the day! There was and is as much separation in the old schools which Antiprecocian shudders at, and, at the same time, as a necessary consequence of his argument, for there is no alternative, prefers. The children are eighteen hours of the twenty-four with their

natural guardians, an ample time for them to reap all the benefit of *their* superior moral training, for Antiprecocian has no choice but to hold it to be superior; and a not less ample time for the parents to recover daily the risked affections of their children, and exercise their own. But will any one pretend that parents in the lower classes are the best fitted to exercise their children in moral, religious, cleanly, and wholesome habits? Nay, are there any parents, even in the educated classes, who, committing, as they do, the moral training of their children to those enlightened guides of infancy called nursery-maids, for a much longer time than the hours of an infant school, can say that they have time, and method, and means, for communicating moral improvement to the children, superior to what is done according to a system founded on the most philosophical principles, and the most enlightened views of human nature—that of Mr Wilderspin! We can tell our correspondent that we, who happen ourselves to be parents, and who have paid some attention to the principles of early moral education, have found that these cannot be regularly, systematically, and efficiently applied at home; that the grand element of numbers of a world in miniature, to exercise practically the social virtues, is wanting; and that the mother cannot be permanently in the nursery, so that servants must be trusted; and I have accordingly availed myself of the establishment of that well-regulated systematic nursery (as Mr Jeffrey called it, with his usual felicity), an infant school, for the children of the middling orders, established in my neighbourhood; and we send a little creature of three years old there for several hours every day. The mother has ample time to do her part, which the habits of the school only make more easy; and while we reap the benefit, we are enabled and entitled to pity as well as deplore the prevalence of such an objection as this to infant education.

Sally, Our correspondent alleges that the talent, zeal, and enthusiasm of a Wilderspin may produce some effect; but the system will die in the hands of what he calls ordinary mortals. We answer, the *fact* contradicts this anticipation. We have visited many infant schools in England, and more recently in Scotland, and have almost invariably met with teachers having all the zeal and enthusiasm, and much of the talent, of Mr Wilderspin himself. I have visited at unexpected times, and never have surprised the machine moving heavily, the master careless, or the children listless and fatigued. It is the system itself which does this. It has obviously opened up a new field for the teachers of youth, which demands an entirely new character of labourers, and a character immeasurably superior to that of the old schoolmaster. The demand is rapidly supplied; it brings forth men of the gifts, and they are many, which are re-

quired ; gifts, moreover, the very exercise of which is delightful, and therefore zealous and even enthusiastic. We have been amused with narratives of the confident and condescending advance of applicants for these situations, on the strength of their being already schoolmasters, and accustomed to teach *older* children ; and their prudent retreat when apprized of what the qualifications really are. But the qualified find in the occupation that which so entirely suits their wishes, that there is no mistaking them when they come forward. We witnessed a singular instance of this, soon after the opening of the Edinburgh model school. A young man, of about nineteen years of age, the son of the building contractor, who had worked as a carpenter in the schoolhouse, very unconscious that the use it was to be put to was any thing more than a *school*, to which establishment he no doubt attached the usual very humble ideas, no sooner witnessed the training under Mr Wilderspin, (which he had access to do by attending daily to finish work during the month it was proceeding), than his proper duty was observed not to proceed with all its usual despatch and accuracy ; and it was soon found that his whole soul was in the Infant School. He soon mastered the system, by reading Mr Wilderspin's book, and observing attentively his method in practice ; learned all the airs and words of the songs ; and, for his own recreation, opened a *gratis* school, of 30 or 40 children, in his own neighbourhood ; which he still continues to assemble after his work, every evening. The little creatures are all in waiting for him long before he can join them ; and he teaches them with a zeal of amateurship which would not discredit Mr John Wood himself. We can predict that Infant Schools will cast the balance against the plane and the saw, and that this young man will yet be a pillar of the system. We look upon this as a piece of real evidence in support of all we have said on this head ; and we are assured, that there prevails among well-educated young men an ambition to become Infant School teachers, which office, from the nature and variety of qualifications required, and the number of faculties and feelings which the employment obviously exercises and gratifies, is felt to be, what it really is, something far more desirable than—what the same minds would never have thought of—ordinary school teaching.

Last of all, our correspondent has gone to a very great distance indeed to find another objection. He has most gratuitously united, in the relation of cause and effect, infant education with infant slavery in manufactories ; in other words, the best adapted instrument of benevolence for enlightening, refining, and morally exalting the humbler classes, with the most effectual contrivance of selfishness and hard-heartedness for stupifying, brutalizing, and morally debasing them. Surely our corres-

pendent has too much discrimination to allow his notions on this head to be confused by the accidental fact, so honourable to Mr Owen of New Lanark, that the first infant school in Great Britain was formed by him in his great manufactory *. He will not confound so obvious a palliation of the evils so difficult to separate from manufactories, so palpable a counteraction of their miseries and degradations, with these miseries and degradations themselves. What did Mr Owen do but actually substitute for many of those hours which less kind-hearted, and more money-amassing manufacturers would have filled with toil, and waste of health and muscle, the same number of hours of easy and delightful knowledge, innocent and refined recreation, air and exercise, and the practice of honesty and kindliness !

Will our correspondent, on reflection, persist in calling these two courses which are antipodes to each other,—the one in accordance, and the other in jarring discord, with the purposes of Heaven in the creation of man, and the relations of his existence, “part and parcel of each other ;” or persevere in alleging that infant training is only a summary way of converting the young into puppets, and fitting them for fifteen hours debasing labour in the day ? This horrible crime, he must admit, is committed quite unreservedly on victims who have had no infant school training. This last element is by no means necessary as a qualification for that variety of human suffering ; for it is rife in manufactories where infant schools would be scouted, to Antiprecoian’s heart’s content, as a most inconvenient hindrance to the fifteen-hours-a-day system ; and, on the other hand, for that very reason, the oppression does not, because it cannot, exist in those manufactories where infant schools are established.

Had infant schools been connected *de facto* with West Indian Slavery, it would be the very same sort of mistake, to impute the horrible evils of Negro bondage to them. It has been projected already to establish infant schools in the Antilles ; and I know the fact, that when the friends of that measure in London stated, as a difficulty, that teachers would not be found to go to that climate, except for enormous bribes, Mr Wilderspin, with the self-devotion of a genuine philanthropist, said, “ I am ready to go, and to devote the rest of my life to the education of Negro infants, and the training of masters for the extension of the system !” If any thing will fit a future generation of West Indian Negroes for the blessings of freedom, it would be the realization of that very plan. Come when it may, Mr Wilderspin (we will pledge ourselves) is ready for what that unwearied and unweariable benefactor of his species would exult in as the

* The improvements *since* by Mr Wilderspin are so great, as to make the Infant School system, as now recognised, essentially his own.

highest of worldly behests ; and in which, were but time vouchsafed, if not for the completion of the harvest, at least for the effectual sowing of the seed, he would cheerfully descend, before his hour, into that grave which European cupidity, cruelty, and crime have dug in those regions of danger and suffering, to engulf alike the slave's driver and the slave's benefactor,—the trafficker in blood, and the self-devoted friend of humanity. No ! Antiprecocian will not persist in arguing that relative evil can result from absolute good ; or that exalting the moral character, enlightening the intellect, and increasing the actual happiness of the infant population, is only to fit them more effectually for the oppressor's rod, in any mode of its application.

We have perhaps said more than enough ; but we feel more than the usual slight emotion which controversy calls up, when that idol of Phrenology, infant education, is attacked ; especially when it is attacked, as it has always been, by *a priori* argument, arising, in the face of experience, out of preconceived notions, or those sudden and often wayward and concealed impressions which furnish so excessive a share of that shifting sandy basis on which what is called public opinion is erected ; and, what is worse, upon which the public practically act, to the incalculable obstruction of social improvement. Satisfied, as we are, that Infant Education, on Mr Wilderspin's plan, is, and will in due time be, acknowledged to be one of the greatest practical blessings which modern improvement has offered to society ;—that it offers the only means (above all, worthy of attention, at this interesting crisis) for bestowing that moral as well as intellectual training which is to fit future generations of adults to exercise, honestly as well as wisely, the elective franchise in all probability about to be greatly extended in this nation, and therefore will and must receive the attention of an enlightened Government, we would suggest to Antiprecocian a candid and careful revision of his certainly hasty sentences of condemnation, and that with the phrenological views of human nature as his guide ; and, above all, would appeal to his good sense, not to be rash in *acting* upon his present opinions, in the way of preventing the establishment of a school or schools of the kind, whenever that blessing may appear likely to light upon any place or places within the sphere of his influence.

ARTICLE V.

SCHOOLS OF INDUSTRY.

AN institution, called the Royal Lewes School of Industry, has lately been established at Lewes in Sussex, under the patronage of Her Majesty. It is intended for the reception of boys and girls above six years of age, and its object is stated by the Committee to be, "to continue the methods of instruction used at Infant Schools, to the children whose growth in years unfits them for those schools, and to provide the children, whose future lot is to live by labour, with a variety of useful occupation, and, it is hoped, with a judicious alternation of works of head and hand; convinced that habits of persevering industry are essential to the attainment of moral excellence."

This institution has been placed under the management of Mr and Mrs Till, whose remuneration is to be at the disposal of the subscribers. A scale of remuneration to rise and fall with the number of scholars, is desired.

The hours of school will be from nine to twelve before dinner, and from two to five after dinner. Whenever a piece of ground can be obtained for the practice of gardening, the hours of work will begin at seven, except in winter. Saturday will be a holiday. Children may bring their dinner to the schools, and each child is expected to have a Testament.

It is proposed, at first, to employ the girls on three afternoons of the week at needle-work, making and mending the clothes of themselves, or of the subscribers; at knitting or netting, and making list-shoes. On one afternoon, Mrs Till will take the girls by turns into her house, and shew them how to clean a house, and keep it in order. The boys are to be employed in making baskets, learning the use of the thimble and awl, cleaning the shoes of themselves or of the subscribers, cleaning knives and forks, and, as soon as possible, in cultivating a garden.

The payment for each child is 2d. per week, besides 1d. for pens and ink; and each child will be credited with a small sum as an encouragement to industry, which will be fixed by the Committee for each article, or valuable service performed.

Reading the Scriptures is to be taught for some portion of each day, which will constitute the whole religious instruction given; and we understand that the parents or the several religious teachers by profession, are to have the choice of Sunday schools and places of worship, for the children of different persuasions.

It is hardly necessary for us to say, that, as phrenologists, we regard Schools of Industry as a very important addition to the existing institutions for the education of the people, and that they have our hearty wishes for their success. "At present," as Melmoth well observes, "the entire circle of our juvenile education is confined to words, while all the knowledge useful in real life, and all manner of facts, for the treasuring of which the youthful mind is so well adapted, have to be learned after our juvenile education is finished." When Infant Schools and Schools of Industry become prevalent throughout the country, we hope to see the grounds of such a complaint in a great measure, if not entirely, brought to an end.

ARTICLE VI.

PARLIAMENTARY REFORM CONSIDERED IN RELATION TO THE MORAL AND INTELLECTUAL IMPROVEMENT OF THE PEOPLE.

THERE are two views of human nature, according to one of which Parliamentary Reform must be a prodigious evil ; while, according to the other, it will be the harbinger of advantages of the utmost value to society. Phrenology enables us to form a judgment on the merits of these opposite prospects.

If the great object of human existence on earth be to eat, drink, sleep, labour, amass wealth, and intrigue for power ; in short, if the lower propensities be essentially the leading faculties in human nature, and if the moral sentiments have been bestowed chiefly to restrain and regulate these, so as to prevent them from running into detrimental excesses ; then the past and present state of society will be a fair representation of its future condition, and we have no authority for expecting higher morality and greater felicity hereafter than have been exhibited in the past history of the world.

According to this view, mankind will for ever remain divided into rich and poor ; the doom of the poor will be ignorance, privation, and toil ; and the enjoyment of the rich will be freedom from the necessity of labour, and possession of the elegant luxuries of life. In such a state of things, the aim of the mass of the people must be limited to obtaining the means of subsistence. The idea of their attaining to the possession of wealth and leisure sufficient to enable them to cultivate and derive enjoyment from their moral and intellectual powers is necessarily excluded ; because the existence of the rich implies, that a large mass of human beings shall continue in the condition of poor.

A great manufacturer, for instance, who has realized half a million of money, is in possession of the wealth produced by the labour of thousands of operatives, who have acted the parts of animated machines; his great fortune is the reward of his superior talents, exerted in combining their efforts, and aiding them by machinery. We do not say that he has done them injustice; because, without his skill and capital, these individuals would probably have toiled in a less fertile field of their own; they would have been equally poor, while he would have been less rich. But our proposition is, that their poverty and ignorance are essential elements in his success; for if they had possessed talents and knowledge equal to his, they would have formed the combinations among themselves, which he accomplished, and divided the gains among their own numbers. They would have elevated themselves a little, and prevented him from raising himself so very highly above them. The same principle applies to operatives of every class; if the agricultural labourers on a farm of a thousand acres, had talents, capital, and morality, equal to those of the farmer who employs them, they could combine and cultivate the land for their joint behoof. If the menial servants of a great proprietor were equally intelligent, refined, and instructed with himself, they would not engage in the occupations in which they are now employed; and he could not maintain that vast superiority in rank which he at present holds.

These remarks are so trite, that we should be ashamed to state them; they are, however, premises which lead to an important conclusion. According to this view of human nature, a continual struggle must exist among the different classes of society. Ignorant operatives are the rude elements from which wealth may be extracted, by enlightened and talented individuals. They are the instruments by means of which the clever and ambitious may amass fortunes and enjoy luxury. They possess intellect sufficient to perceive their own condition, and to discover that their sinews raise the food, fabricate the cloth, and rear the mansions by which the higher orders enjoy a far higher condition of existence than they do. Nevertheless, they are too ignorant, and their morality is too low, to enable them to act in concert, so as to create wealth by their spontaneous efforts, and to distribute it entirely and equitably among themselves. They are sufficiently intelligent to envy the rich, but not adequately so to becoming rich themselves. If we inquire why they do not combine and reap the whole fruits of their industry, the history of the establishments at Orbiston in Lanarkshire, and of New Harmony in North America, by Mr Owen and his followers, enables us to answer the question. These were founded on the principle of co-operation, and division of the produce

among the operatives; but it was soon discovered that the individuals were too low in intelligence and morality to act together on principles of benevolence and justice. Their inherent selfishness prompted each of them to appropriate as much of the joint stock to his own use, and to contribute as little of his own labour towards its production as possible; and these establishments failed.

These experiments demonstrated that the operative classes, with their present attainments, are incapable of successfully applying their labour to their own exclusive advantage. When left in these establishments to the guidance of their own intelligence and morality, their condition became greatly inferior to that which it had been when acting as hired servants, exalting a master and his family to wealth by their labour. Their abiding in the condition of servants, therefore, and their elevating individuals to the condition of masters; in other words, the co-existence of a servile mass, and of an enlightened aristocracy, appears absolutely inherent in the constitution of human nature; unless we are prepared to admit, that the people are capable of far higher improvement than they have ever attained in the past ages of the world.

Individuals are continually rising from the operative into the aristocratic ranks,—a circumstance which preserves the operatives in a patient frame of mind, and satisfies the feelings of justice of the common observers of society; because it appears to leave the way open to *all* to advance into a higher sphere, whenever they shall qualify themselves for the change. But the opposite conclusion really follows. The elevation of individuals from a lower to a higher sphere, necessarily implies the permanent existence of two ranks, or the continuation of rich and poor as constituent portions of the social body; in other words, it supposes that the majority of the people shall remain ignorant and rude, that the minority only shall be refined and enlightened, and that they shall profit by the imperfections of the former.

According to this view of human nature, the effect of improvements in arts and sciences are to increase the numbers in the higher in proportion to those in the lower classes; but not to lessen the inherent distinctions between them. If the operatives were to cease to be rude and ignorant, the present form of society would terminate; because they would have no masters, and the rich would have no labourers and servants. This idea is regarded by many persons as entirely Utopian; and the only sound conclusion, according to their principles, is, that although the circumstances of the mass of the people may be rendered a little better or a little worse by good or bad laws, yet, as their existence in poverty and ignorance is an essential

element in the constitution of society, it is absurd to expect any important improvement in their condition. Any attempt on the part of the people to amend their circumstances *by force*, would only aggravate tenfold their misery; because, if they became the rulers of the state, they would employ against each other those selfish passions, the predominance of which is the grand cause of their remaining in an inferior situation.

While this view of the constitution of human nature denies the possibility of the people at large ascending greatly in the scale of morality, intelligence, and enjoyment, it does not lead us to believe that they are altogether happy in their present state. It admits them to possess so much intellect, as to be conscious of their inferiority, and so much ambition as to desire to remove it; but it denies them intelligence sufficient to gratify their ambition, by advancing in any marked degree in the scale of improvement.

According to this view, the higher classes act as the conservators of society; and a system of government will be suited to the nature of man, in proportion as it places power in the hands of the educated and wealthy, and removes it from the collective mass of the people.

Parliament, as hitherto constituted, operates precisely in this manner; the wealthy obtain seats for counties, for open boroughs, for rotten boroughs, and for close boroughs; in short, men of property choose the national representatives, and they make the laws.

The object of Parliamentary Reform is to bestow political power on a lower class of the people than has hitherto enjoyed it. According to Mr Horace Twiss, the tendency of the measure is "to enlarge the constituency of Parliament, by including in it men of limited information—of strong prejudices, such as shopkeepers, and small attorneys, retired tradesmen, inhabiting houses rated at L. 10, members of small clubs, and persons of that description;—persons of narrow minds and bigoted views, are to be called to council the nation;" and the anti-reformers predict every conceivable evil as the result.

Now, if the constitution of human nature be such as we have here supposed, the opponents of reform appear to us to be indubitably in the right. If the great body of the nation must, by necessity, remain for ever ignorant and selfish, that form of Government is the best which removes political power farthest from their hands; and, although the present Reform Bill does not permit mere operatives, destitute of all property, to vote, yet it gives power to the class immediately above them, who must sympathize with their feelings, and be actuated in some degree by their motives; and it must, therefore, to some extent, open the way for their assuming an attitude in the state, for which, according to the theory supposed, they are entirely dis-

qualified. It is calculated, in short, to favour the attempts which the people must ever be prone to make, to subvert the institutions of society, by which the wealthy enjoy life, and they are excluded from its best gratifications.

We regret to be under the necessity of observing, that countenance has been lent to these views of human nature, by some of the popular teachers of religion. The undoubted scriptural doctrine, that the human heart is deceitful above all things and desperately wicked, has sometimes been almost exclusively dwelt upon, greatly to the neglect of the cheering views of the renovation introduced by the Gospel. It has been inculcated that ~~this life is a weary wilderness, in which there is no resting-place~~ for virtue, and that the duty of a real Christian is to concern himself little with worldly affairs and temporal interests, but to place his affections on things in heaven. We admit that it is an abuse of this doctrine to apply it to countenance any particular defect in social institutions, and to argue that it ought not to be rectified. Pious individuals would be the last to sanction such an application of it; but the general impression, early and deeply made, on the best minds, that human nature is extremely debased, and capable of very little good, has a tendency to paralyze the efforts of the advocates of reform, and affords a groundwork for the most sinister predictions of evil and disappointment, as consequential results from every new measure that requires for its success, the display of moral and intellectual qualities by the people.

We must admit farther, that history strongly supports this view of human nature. In all ages, and in all countries, the great body of the people have more closely resembled animals of a superior order than rational beings, whose chief pleasure and occupations ought to be derived from the exercise of their moral and intellectual faculties. Their occupations and enjoyments have borne reference to their animal nature, and the portion of time devoted to pursuits purely rational has been scarcely appreciable. Their ignorance has been excessive; literally their propensities have been the grand moving powers of their actions, and the office of the moral and intellectual faculties has been confined to restraining these from committing excesses, which would have brought destruction on themselves.

There are several reasons, however, which lead us to doubt whether this view of human nature be really sound; and whether the past will prove a correct image of the future, in regard to the condition of the people. *First*, Contentment with poverty and ignorance has never been manifested by the labouring classes, and this indicates that their condition is not altogether in harmony with their nature. They have in all ages desired to improve their circum- which desire must have arisen

from feelings inherent in their nature, tending to a higher state of existence; and if inherent, they must be calculated to be gratified, if man has been constituted by a wise and benevolent Creator. *2dly*, History proves that man is a progressive being; and although he may have been, and may now be rude, he may be capable of improvement, for he has improved to some extent already. If, then, we have reasonable grounds for hoping better results for the future, the question naturally presents itself, What improvement does the real nature of man warrant us to expect, and how may it be best realized?

One class of persons will answer this question by an assurance ~~that the Messiah will speedily reappear personally on earth~~, and regenerate the world; that the millennium will commence, and then the reign of peace will be proclaimed. Persons holding this opinion, spread religious works proving the approach of the second coming, and recommending to mankind to watch and pray; but they look on the use of natural means for improving man's physical nature, his moral and intellectual organs, his social institutions, and for communicating to him scientific and practical knowledge, as subordinate in importance to teaching him their own views and principles of action.

Another class of religious persons will answer, That human improvement can be accomplished only by converting men to Christianity, enabling them to see themselves as sinners, leading them by prayer and perusal of the Scriptures to ask for the aid of the Divine Spirit to renew their whole nature; and that all other measures will fail, which do not embrace these; and flow harmoniously as consequences from them. This class of persons also will naturally labour chiefly to disseminate their own views, and to impress them as practical principles on the people. We do not dispute the truth and excellence of the general views of this class. But we may be allowed to regret that the use of other means should be so much neglected, as of secondary importance and utility.

A third class of men will answer, Give us free trade, moderate taxation, liberty of the press, and leave every thing else to itself, and man will improve faster than by any aids which legislators can administer to help him in his progress.

The grand characteristic of all these classes and of many others, is, that they ascribe to man a nature suitable to their own views, without any scientific inquiry into its consistency with truth.

The phrenologist proceeds differently. He investigates the elementary qualities of human nature, their relations, and the effects of their combinations. The great points of distinction between man and all the other creatures of earth are the moral and reflecting powers, which he exclusively possesses. On comparing the faculties among themselves, and contemplating their

relations to external objects *, the phrenologist becomes convinced that man is essentially a rational being, that the moral and intellectual powers have been given to him not as mere sentinels to watch over the propensities, but as active and commanding impulses, as the sources of his best and highest enjoyments. The consequences which flow from this view are diametrically opposite to those which follow from the doctrine of the propensities being the real basis of social as well as individual interests and enjoyments.

If the moral sentiments and intellect be the superior powers, and the propensities the mere substratum for maintaining these in health and activity, then the real, substantial, and satisfying enjoyments of human nature must be sought for in actions and institutions proceeding from, and in direct harmony with, Benevolence, Veneration, Conscientiousness, Ideality, and Reflection. Employments such as agriculture, manufactures, and commerce, are, on the former theory, viewed as the serious business of human existence; and the value of education is to render success in these pursuits greater and more certain. According to the phrenological view, these employments are only the means of providing for the wants of our animal nature, and cannot constitute the proper business of life to rational beings; whose chief occupation ought to consist in studying the works of the Creator, discovering and obeying his laws, and gratifying the social affections in the interchange of knowledge, and of pure refined feeling. The great distinction between these two views of human nature is, that the former contemplates labour as the serious occupation of life for the people; the latter regards moral and intellectual cultivation as the proper business of every rational being;—the former contemplates refinement and mental enjoyment as attainable only by the higher classes; the latter regards these as placed by nature within the reach of all classes;—the former assumes that the body of the people shall permanently continue in the condition of mere labourers; while the latter expects that they will abridge their hours of labour, and dedicate their leisure hours to mental cultivation and rational enjoyment.

According to our view, the discontent and misery that have pervaded the mass of the people in past ages may be traced to obvious causes. The moral and intellectual faculties have always existed in them, and aspired to their natural enjoyments; but owing to man being a progressive creature, and to his being apparently only in the commencement of his existence, his knowledge has been extremely limited, and little advance has been made in adapting his occupations and economic institutions to his

* See Phrenological Journal, of Man, p. 39.

nature. Knowledge is the essential element of thought; and without ideas man can neither think nor act wisely. The external world and the human faculties have been adapted to each other by Divine Wisdom; and the most beneficial exercise of intellect is that which results from a study of the constitution and qualities of the material world, and their relations to the human mind. Equal to this in importance and utility is the study of mind itself, and its relations to society and to God. In past ages, science, or, in other words, correct knowledge of external nature, did not exist; and, even since it has existed, it has not been taught to the people*. Previous to the discovery of Phrenology, no science of mind deserving of the name was known; and even at the present time extremely little is known by the public at large concerning its constitution and relations. Hitherto, therefore, the people, although possessing from nature intellectual faculties, have never acquired the elementary knowledge of creation necessary for rendering them available as guides to conduct and as sources of enjoyment. Again, society is to the moral faculties what air is to the lungs, or light to the eyes; it is the medium in which alone they can flourish and perform their functions. An individual cannot love unless objects be presented to him worthy of affection; he cannot exercise justice unless in presence of moral beings who enjoy rights, and comprehend the obligation to respect them; he cannot venerate wisdom and virtue except in intelligent men or superior beings. The more refined, moral, and enlightened, therefore, the general

* It has frequently been asserted that few, if any, of our countrymen, are in the present day without the means of instruction. This opinion has occasioned no inconsiderable degree of the apathy which exists with respect to the establishment of schools for the daily instruction of the poor. How false and utterly delusive such a view of things really is, the melancholy facts brought to light by the late Special Commissions abundantly testify. From a correspondence which has been entered into with the intelligent individuals resident in the disturbed districts, the following details have been elicited:—**Berkshire**—Of 138 persons committed to Reading Jail, 25 only could write, 37 only could read, and 76 could neither read nor write; 120 were under 40 years of age, varying from 35 down to 18 years. Of the 30 prisoners tried at Abingdon, 6 only could read and write, 11 could read imperfectly, and the remainder were wholly uneducated. **Bucks**—Of the 79 prisoners convicted at Aylesbury, only 30 could read and write. **Hants**—Of 332 committed for trial at Winchester, 105 could neither read nor write. Nearly the whole number were deplorably ignorant of even the rudiments of religious knowledge. **Kent**—About one-half of the prisoners committed to Maidstone Jail could neither read nor write, and nearly the whole were totally ignorant with regard to the nature and obligations of a true religion. **Sussex**—Of 50 prisoners put on trial at Lewes, 13 only could read and write, 12 could read imperfectly, only 1 could read well. This striking and truly melancholy statement will cause many pious and philanthropic persons to regret that so many thousands of pounds have been expended in disseminating the blessings of education and comforts of religion in remote climes, while our countrymen, our kindred it may be said, have been left to “perish for lack of knowledge.”—*London Newspaper.*

character of society, the more completely is it adapted to the healthy exercise and the full enjoyment of the moral powers. But hitherto man has not known his own nature; he has not enjoyed that powerful demonstration of the existence, functions, and relations of the moral sentiments which Phrenology affords; his faith in them has been cold and unproductive, and scarcely one of his institutions has been formed with direct and intentional reference to their gratification. In past ages the people have enjoyed moral feelings, but been unable, through ignorance, to reach a moral atmosphere calculated to afford them healthy exercise and full gratification.

Now arts, sciences, and the philosophy of mind, have been discovered, and printing has been carried to a high point of perfection; in short, knowledge, together with the means of diffusing it, are possessed, while its real importance is appreciated; and can we doubt that these causes operating on the future will render it far brighter than the past, when blind animal propensities guided the actions and presided over the institutions of man?

The phrenologist therefore maintains, that the past affords no infallible criterion by which to judge of the future, because new elements have been introduced into society; which never before existed in it. The question, however, remains, What degree of improvement may be expected to take place in the great mass of the people? As philosophers and literary men have generally belonged to the class which holds capital and has received education, they insensibly mistake their own class for the nation; but this is a gross error. If Britain contains 14,000,000, the middle and upper classes will not exceed 3,000,000; and it is absurd to judge of the condition of the nation by that of the small minority of its members. We regard the people as the nation, and consider the improvement of their condition the only true national advancement. The same mental organs, and the same physical constitution, are bestowed on them as on the higher ranks, only less cultivated and refined. Ideality prompts them to love the beautiful and perfect; Benevolence to desire universal happiness; Conscientiousness to long for all pervading justice; and Veneration and Hope to aspire to the exalting enjoyments of a pure and ennobling religion; all as naturally as their superiors. They possess the elements, therefore, of man's rational nature in an available degree, to fit them to become really moral and intellectual beings. Again, the earth is so prolific, and science has so prodigiously augmented, and continues so rapidly to increase, human power, that nature appears to admit the possibility of the members of society generally enjoying leisure to cultivate and reap enjoyment from the exercise of their higher faculties. Luxurious food, expensive

clothing, and splendid dwelling places, are not essentially necessary to the exercise of Ideality, Benevolence, Veneration, Intellect, and Justice; and great wealth is not necessary to high mental cultivation. Leisure, and the stimulus of active minds, are the great requisites to improvement, after the external elements of knowledge have been rendered accessible. Whenever, therefore, the operatives shall be able to abridge their hours of labour, and dedicate the leisure gained to moral and intellectual cultivation, they will experience little difficulty in commanding the other requisites for the enjoyment of their rational existence. Nature not only permits an abridgment of their hours of labour, but imperatively enjoins it; for whenever civilized countries in general shall manufacture as extensively as Britain, and they are all striving to do so, goods will be produced in superfluity. Man has not been created to act solely as a living appendage to manufacturing machinery; and we rely with a firm assurance that he will ere long discover that his mechanical skill has been given to afford leisure for his moral enjoyment.

If these views be correct, there is no obstacle in nature to prevent the mass of the people becoming moral and intelligent; and whenever they shall attain to these qualities, social institutions must be modified so as to favour the exercise of their higher powers. The present habits of society, which doom a vast majority of the nation to labour so constant and so long continued, as to unfit them for mental cultivation, and which leave a considerable portion in utter idleness, the prey of ennui and whim, appear to be temporary in their character, and to be destined to pass away before higher civilization, as the modes of savage and barbarous life have disappeared before the lights, imperfect as they are, which now pervade the social body. The failure of the establishments of New Harmony and Orbiston arose from having been prematurely attempted, rather than from being inherently unsuitable to human nature. Rude and uncultivated individuals were called on to act a highly moral and intelligent part, without previous preparation. Schools and the press will improve the operatives so decidedly, that they may hereafter be capable of higher duties. The tendency of future changes will be to diminish the excessive inequality of fortune which now prevails, and to mitigate the aristocratic feeling of the higher classes in proportion as the lower classes approach to them in independence, knowledge, and refinement. A more complete moral sympathy, in short, will pervade society at large, and a greater unanimity of sentiment in regard to the real utility of measures proposed for the public good. The struggle of individuals and classes to obtain peculiar advantages, regardless of the rest, will cease, as founded on narrow views and principles

disowned by an enlightened understanding. The general good will be recognised as the only individual advantage that can be permanent and real.

Parliamentary reform, viewed in connection with these principles, presents a totally different aspect from that which it wears according to the former theory. The advance of the people, according to this view, is inevitable. They possess faculties, and knowledge is within their reach; they cannot therefore continue stationary. Being evidently destined to become rational in their feelings, conduct and pursuits, it is wise to pave the way betimes for their improvement; the admission of the class who are most closely connected with them, and exercise the greatest influence over them, to political power; is one of the best methods that could be devised for stimulating them to advance. The highest distinction of a rational being is to perceive clearly the inseparable connection between his own happiness and that of his fellow men; and to acknowledge the principle as equally indubitable in theory and practice, that all exclusive privileges in their ultimate results prove injurious to those who possess them as well as to those against whom they are directed. This conviction can be established only by accustoming men to take profound, comprehensive, and consecutive views of social institutions and their effects; which they will do earnestly when they are allowed themselves to influence their adoption.

While, therefore, the phrenologist admits that the people are *de facto* ignorant, and liable to many vices—while he grants that their first proceedings after reform shall have been attained will probably be discreditable to the cause of freedom—he cannot hesitate to hail it as sound in principle, and calculated to produce great ultimate good.

The opponents of reform argue, that the present measure will prove the harbinger of greater changes, and that far from satisfying the people, it will only encourage them to propound higher demands. According to their views, these demands will have for their object the elevating of ignorant and selfish men to power, over enlightened and moral individuals; according to ours, their aim will be the advancement of the rude to refinement, and of the ignorant to knowledge. We admit that farther changes will inevitably follow. Viewing the people as rational beings, we see no reason to expect that they will stop short, until social institutions shall have been modified so as to admit of the gratification of the higher powers in all classes of society. The operatives, in short, must have leisure, knowledge, and refinement; luxury is not necessary, but the elementary enjoyments of their rational existence will be considered as indispensable. We do not predict that a time will come when all distinctions of ranks will cease; because difference of cere-

bral development appears to be an institution of nature, and it implies difference of rank ; but we do expect that the extremes will not continue for ever to be so widely separated as at present. The general mass will be improved, and men of high rank will require to possess natural endowments and acquired attainments, sufficient to place them in a situation of undoubted superiority over the people. It is absurd to fear an equality of rank to be effected by pulling down men of intelligence to the level of the ignorant. This is impossible, for Nature forbids it : she gives an indestructible superiority to talent, virtue, and knowledge. The only equality practicable is that to be accomplished by elevating the inferior to the higher level, and in that case the occupiers of the higher rank would probably advance ; but their advance would be towards purer morality and profounder knowledge, and not consist in a mere extension of wealth, luxury, and artificial refinement. Distinctions of rank founded on moral and intellectual attainments, being natural, would never prove injurious, and would not be objected to by the people.

If the people at large were to become moral and intelligent, it would be necessary for persons of higher rank to regard health, obtained by moderate labour, gay and joyous sentiment, arising from habitual exercise of Benevolence, Veneration, Ideality and Justice, and refined pleasure derived from science, music, poetry, painting, and sculpture, as more delightful luxuries than racing, betting, prize-fighting, hunting, drinking, and political contentions. An enlightened populace would refuse to respect wealth, when separated from virtue and knowledge, and would despise it when applied to purely selfish gratifications. They would venerate its possessor, however, when his wisdom and philanthropy equalled his riches. Whenever the higher classes shall have adopted moral pursuits, such as educating the people, and improving the social institutions of the country, they will have no cause to dread the encroachments of the lower orders on their powers or privileges ; for natural superiority will preserve their own sense of dignity entire, and give rise to sincere respect in the people.

Duty and interest, therefore, equally direct the higher orders to use every possible means to enlighten and improve the people, so as to bring their moral and intellectual powers speedily and effectually into play, for in this must be found the future safety of the State. The Whig Administration seem to perceive this truth, and to act upon it. They are the founders of schools and colleges, and the patrons of science and literature for the people ; which is the truest wisdom.

The higher ranks labour under a variety of prejudices, which sounder information will remove. The pride of birth is extremely prevalent among them, and nothing mortifies the *new*

men, or the upstarts from the lower ranks, more deeply than to be reminded of their want of ancestry. This feeling, as commonly manifested, is entirely irrational. A family is sometimes proud of their descent from a border chief, a profligate courtier, or buccaneering admiral, provided he received a patent of nobility from a semibarbarous king four or five centuries ago; and the sentiment of conscious dignity is not abated, although there should have been knaves, fools, halt, blind, and insane individuals, in profuse abundance, in the line of descent. This results from Self-Esteem and Veneration acting blindly, and in a manner disavowed by reason. The admiration of ancestry is a natural feeling; but the just direction of it is different from the foregoing. The transmission of a fine figure, of high health, of powerful moral and intellectual organs, through successive generations, would be a proof of the race possessing real natural superiority. It would be highly advantageous to obtain an alliance in marriage with such a family, because these qualities descend; and such a family ought to be jealous not to unite their blood with inferior streams, because this would deteriorate their future descendants, and bring them down from their high condition. If family pride took this direction, the peasant and peer might be equally proud of a long line of virtuous ancestors, and the race would be improved. According to the present notions, natural qualities are estimated at little, and adventitious advantages chiefly captivate the imagination; but, from these being disowned by Nature, they often generate only bitterness to the heart.

It is not difficult to perceive the means by which the improvement of the people will be accomplished. Reform will give new freedom and boldness to human thought, and men will seek knowledge wherever it is to be found. They will discover, that while knowledge of physical nature is highly important as a means of intellectual improvement, no certain advance in social institutions can be attained, until the science of Mind, and its relations, shall have been taught to the people. Future leaders of the people, therefore, will become as anxious to diffuse a knowledge of Phrenology, as the present philosophers are to stifle its growth, and obstruct its progress. It would be an incalculable advantage to the cause of religion, reason, morality, and social order, if the people at large were instructed from their youth in such knowledge of their bodily system, as is briefly sketched out in the first article of this Number, and made acquainted with the elementary faculties of their mind, the natural superiority of the moral and intellectual faculties, and the legitimate spheres of action of all the mental powers. This education would plant clear and consistent elementary principles in their minds, on which the moralist, divine, legislator,

and the conductors of the periodical press, might subsequently found the most valuable instruction; and give to it the force and consistency of demonstrative science, resting on ascertained and acknowledged data. Teachers of religion also stand greatly in need of a philosophy of human nature, to render their exertions efficient. They announce it as the duty of every Christian to love his neighbour as himself; but they do not inquire into the conditions which are necessary to render this precept practicable. The phrenologist knows, that if the organs of the lower propensities be very large, and those of the moral sentiments very deficient, the being so endowed cannot love his neighbour as himself, unless under miraculous influence; because his selfish feelings partake of the strength of the large organs of propensity, and his disinterested feelings of the feebleness of his small organs of sentiment. The clergy, therefore, ought to teach the people by what means the size of the moral organs may be increased, and that of the propensities diminished. They may neglect this instruction, or laugh at it, while ignorant of its importance; but if the Creator has instituted the connexion of large moral organs with strong moral feelings, and *vice versa*, they will not forward the Creator's cause by treating his institutions with contempt. Again, the social state is the atmosphere of the moral feelings; it is extremely difficult for the very highest minds to maintain virtue in profligate society, and to inferior minds this is morally impossible. Before the precept, to love our neighbour as ourselves, can become practical, the divine must provide a social state, in which men in general shall act under the higher feelings, in which love shall be the mainspring of conduct, and not selfishness. But, in the present constitution of society, selfishness is the ruling motive, and it is therefore morally impossible for an individual to love his neighbour as himself. Now, the religious instructors of the people have not hitherto conceived it their duty to study the nature of man, and the social institutions adapted to give scope to his moral powers, and to restrain his propensities; nor have they taught the people by what means to improve their institutions, so as to purify the moral atmosphere, and hasten the day when it will be possible for each man to love his neighbour as himself. We do not blame them for this omission: they could not accomplish ends, while the means that lead to them were unknown; but we point to Phrenology as an instrument of usefulness in their hands, of which they have yet to learn the importance.

ARTICLE VII.

THEORETICAL OPINIONS REGARDING THE ORGANS OF
THE FACULTIES.

TO THE EDITOR.

SIR,

VARIOUS authors ignorant of Phrenology, have breached the doctrine of the plurality of cerebral organs. In your second volume, p. 378, you gave a history of the fantastical opinions of several writers of the thirteenth and three following centuries. It was not, however, till the doctrine was published under the name of Phrenology, that mankind discovered its ludicrous nature. It is calmly stated by a popular author, so recently as the year 1799, and I am not aware that the statement then excited the risible faculties of the public. Dr Willich, in his *Lectures on Diet and Regimen*, page 609, after stating that the brain is the seat of "consciousness, the capacity of thinking and judging, memory, and all the higher faculties of the mind," adds, "that *different parts of the brain seem to contain different faculties*; so that memory, probably, occupies more the external crust, and the power of thinking the interior substance of the brain."

"With respect to memory," he continues, "it is remarkable that nervous and epileptic patients are usually deprived of that faculty before any other of their mental powers are impaired. Perhaps the efficient cause of the disease has not penetrated the brain deep enough, so as to affect the seat of the understanding and judgment; till at length, with the progress of the disease, the higher powers of the mind become affected."

"Even the lower faculties, the emotions of the mind; and the various passions, appear to be situated in different organs. Thus the seat of terror and anger seems to be in the stomach, and in the biliary system; the more amiable feelings, as philanthropy, compassion, hope, love, &c. seem to be situated in the heart; fear and surprise in the external surface of the head and back; and sudden pain in the breast."

In this passage the phrenological principle of the plurality of mental organs is clearly admitted; but the author, like his predecessors, in determining the locality of the organs, has fallen into the usual error of preferring theory to observation and induction. I am, &c.

OBSERVATOR.

ARTICLE VIII.

BOUILLAUD'S EXPERIMENTS TO DISCOVER THE
FUNCTIONS OF THE BRAIN.

Two motives have induced us to submit to our readers the following abstract of the experiments of M. Bouillaud. We are, in the first place, impressed with the belief that our best, if not our only means of convincing the minds of those who still continue to disregard or resist the truths of Phrenology, is sedulously and constantly to force upon their attention pathological and physiological proofs of the principles upon which it is founded. To minds long habituated to phrenological investigation, illustrations and proofs occur at every step; but evidence of a more striking and incontestable nature is desired and demanded by those who have not been accustomed to regard the subject with a philosophical eye, or who have studied it with an inclination, if not a predetermination, to doubt and disbelieve. The facts we are about to relate are calculated to satisfy the most sceptical. Our principal inducement, however, was the character of the source from which these facts have been derived; they have been accumulated by a pupil and enthusiastic admirer of M. Magendie; they have been approved of and published by M. Magendie himself, and have extracted from that arch-foe to Phrenology a virtual acknowledgment of the truth of the first principles of the science he has so often calumniated; wherein, strange to say, he claims the merit of having given to the scientific world proofs of the relation between the intellectual powers and the anterior parts of the brain. It is needless to remark, that such authority is unexceptionable; that when our deadliest and most formidable enemies exert themselves to prove, by the test they consider least liable to fallacy, *destructive anatomy*, that the brain is the organ of the mind, — that there is a plurality of powers, and consequently a plurality of organs, by which these are manifested, — that the intellectual powers reside in the anterior portion of the brain; and so on, — our labours are near a close. One striking feature in the following experiments, is the triumphant refutation they afford of many of those performed by M. Flourens, and to which so much importance has been attached by our opponents. It is true that the same objections apply, in a certain degree, to both; but with infinitely greater force to those of the latter physiologist. What we are about to narrate is almost a literal translation of M. Bouillaud's memoir, as contained in Magendie's *Journal de Physiologie* for April 1830. We have sacrificed every thing in order to con-

vey the author's meaning; and, as his labours are not yet terminated, we have not ventured upon a single remark, postponing even the tribute of praise to which he is so justly entitled, until the extent and entire value of his discoveries are known.

M. Bouillaud commences his paper with the somewhat trite observations, that the physiology of the brain is very imperfectly understood; that it imperiously demands our attention; and that, notwithstanding the dissections and discoveries of Haller, Vicq d'Azyr, &c. it remains a fertile and almost unexplored field for future inquirers. He then goes on to say*, that "the experiments of M. Flourens, which have presented us with so much valuable information respecting the mysterious functions of the cerebellum, have in no degree contributed to the progress of our knowledge of the physiology of the brain properly so called. I will even assert, that, notwithstanding the merited respect with which the works of this ingenious experimenter have been received, the conclusions which he deduces from his experiments on the cerebral lobes, will tend to retard science, by sanctioning certain purely metaphysical doctrines, which the spirit of analysis and observation characteristic of the present day appeared to have set at rest for ever. Fortunately these conclusions are not a faithful expression of nature; and even M. Flourens' own experiments are far from confirming them. This would surprise us less, did we not possess in M. Flourens' other researches ample evidence of sound logic and an enlightened mind. It is, however, to be confessed, that the determination of the part which the cerebral lobes play in the manifestation of the intellectual phenomena, is far from being easy. As yet we possess scarcely any thing but conjectures on the relations which exist between certain mental powers and certain regions of the brain; and hence the prince of our physiologists Magendie, correctly designates Phrenology a pseudo science. In this paper there will be no inquiry whatever into the nature or mechanism of the intellectual functions. These objects must ever escape the scalpel of physiologists. We shall solely attempt to ascertain whether, as some contend, the different parts of the brain perform one function in common, or whether, on the contrary, different portions of this organ do not perform different functions. And should this last proposition be found to be verified by experiment, our next object will be to determine what are the powers which reside in each particular portion of the brain, and what are those devolved upon the particular substances of which this nervous mass is composed. I shall here speak of the experiments which I have performed on the Mammalia and Birds, these classes of animals being the only ones whose habits and

* What follows is translated from Bouillaud.

intellectual powers have as yet been submitted to my observation. I have not been able invariably to employ the method of ablation, so successfully practised by M. Flourens; and, for this reason, it was of the highest importance to the success of the experiments that the animals should survive for several weeks, even for several months, otherwise I could have but very imperfectly observed the impairment of function corresponding to the mutilation. Besides, in the Mammalia, dogs for example, the removal of any considerable portion of the brain is frequently followed by immediate death or by casualties,—circumstances which do not permit us to distinguish between the phenomena arising from the ablation of brain, and those referrible to the other injuries inflicted on the system. To avoid this difficulty, I have been obliged to have recourse to other measures, a description of which will be found in the history of the particular experiments.

“ Part I.—*Determination of the Functions of the Cerebral Lobes in general.*

“ Let us first ascertain the condition of an animal from which we have removed the cerebral lobes. In order to arrive at the necessary precision in our results, let us select the species of animal, and let us for a moment suppose that we have before us a hen deprived of its cerebral hemispheres. It passes the greater part of its time in sleep, awaking, however, spontaneously at intervals. When it sleeps it turns its head to a side, and thrusts it under the wing. When it awakes it shakes itself, flaps its wings, opens its eyes, in these respects differing in no degree from an un mutilated individual of the same species. It does not appear to be disturbed by any noise passing around, but the slightest irritation of the skin arouses it instantly. Upon the irritation ceasing, it returns to sleep. When roused, it gazes stupidly around, changes its posture, and walks spontaneously. If confined in a cage it attempts to escape, but it moves about without any aim, without any design. It withdraws its foot or wing when pricked. It flutters, cries, and tries to escape when seized, but remains motionless whenever let loose. If the irritation to which it is subjected be very powerful, it cries violently; but it is not merely to express pain that it uses its voice; for it is frequently heard to cackle and cry when no external irritation exists. Its stupidity is profound. It recognises neither objects, places, nor persons. It is completely deprived of memory, and not only does it not know how to seek and seize its food, but it forgets to swallow it when placed in its bill, swallowing only that which is forced down into its throat. Its resistance and agitation, however, shew that it is sensible of the presence of the fo-

reign body. It knows neither how to avoid an enemy, nor to defend itself. All its actions, in a word, are blind, and display no trace of those intellectual combinations of which this animal, in its natural condition, gives so many proofs. Such is the state of a hen from which the cerebral lobes have been removed. Let us now examine what are the conclusions to be drawn in relation to the function of these lobes. They are without doubt the seat of the memory, of the sensations which are furnished by hearing and vision, and of all the mental operations to which these sensations are essential, such as comparison, judgment, &c. operations from which our knowledge of external objects is derived. They also assuredly direct all actions which presuppose a knowledge of these objects, such as the search for food, the act of eating, of avoiding an enemy, or escaping from it by stratagem, of going to roost, and of following individuals of its own species. But because the cerebral lobes are the seat of the faculties of which we have spoken, is it necessary to conclude with M. Flourens, that 'they are the sole organs of all the sensations, instincts, intellect, and will?' Facts do not permit us to believe this.

"1. *The cerebral lobes are not the sole seat of all the sensations.* In order to demonstrate this proposition, it will be sufficient to say that an animal deprived of these lobes awakes when touched, utters cries when pinched, burned, or, in a word, whenever subjected to physical pain. Even the learned reporter* on M. Flourens' discoveries has said, that his experiments did not conclusively prove that the ablation of the cerebral lobes was followed by the loss of the sense of touch. Nothing farther is proved than that this operation destroys the senses of taste and smell, and many internal sensations which provoke the excretions, and produce certain actions. But are the cerebral lobes the seat of the senses of vision and hearing? We acknowledge that it is difficult to solve this problem. According to M. Flourens, an animal deprived of these is blind and deaf; but it is an assertion of which he has adduced no proof. It is quite true that an animal thus injured dashes itself against every obstacle; but is not the loss of memory, from which the knowledge of external objects is derived, adequate to explain this phenomenon? An animal in this state opens its eyes when awake; it looks stupidly in all directions: its pupils contract in a strong light, &c. Can all these phenomena be reconciled with the absence of the sense of vision? M. Magendie, whose authority is of such consequence, states that a mammiferous animal, deprived of the cerebral lobes, is sensible of odours, tastes, sounds, and touch. As to vision, he seems to think that it is destroyed by

* Cuvier.

the subtraction of these lobes. We may perceive, however, that he regards the brain less as the seat of the actual visual sensation, than as that of the operation by which we acquire ideas of the distance, size, form, and motions of bodies. In admitting, however, what does not appear to us to be completely demonstrated, that the hemisphere of the brain may be the seat of the senses of hearing and sight, it is not the less certain that all the senses do not reside in them, since animals deprived of these nervous masses, preserve all their tactile sensibility, unless we are to suppose that the movements and cries of the animal, when irritated, are not a sign of this sensibility. It is to be remarked, likewise, that, if sight and hearing have their seat in the cerebral lobes, it remains still to be shown in what part of the lobes these senses reside, as we may remove certain portions without injury to either of them.

"2. *Are these lobes the seat of intelligence, the instincts, and volitions?* If these words had any precise signification, the question could be easily answered. To reply in the affirmative with M. Flourens, is to admit that an animal that walks spontaneously, flies when we torment it, struggles in order to escape when we hold it, withdraws its foot when pinched, and, if it be a hen, cries and cackles from time to time,—that, whether asleep or awake, preserves the same attitudes, and performs the same movements as before mutilation;—it is to admit, we assert, that an animal in such a condition, acts neither voluntarily, nor instinctively, nor rationally. But we contend, that such a proposition is inadmissible. For what other cause than intelligence, instinct, or volition, could produce the movements in question? It will be more correct, then, to say, that the cerebral lobes are the seat of certain instincts, such as those of nutrition, defence, living in society, &c.; and that, what we are able to affirm from experiment amounts to this, that an animal deprived of these lobes, no longer recognises objects, persons, or places; that it loses the memory of these things, and is incapable of all education or rational conduct; but that it still preserves the power of performing certain spontaneous movements.

"3. It remains for us now to examine whether the statement of M. Flourens be correct,—'That the cerebral lobes concur throughout their whole extent in the full and entire exercise of their functions; that when one sensation is lost, all are lost; when one faculty disappears, all disappear: that neither are different portions allotted to different faculties, nor to different sensations.'—*Recherches*, &c. p. 100. We already know that all the sensations do not reside in the cerebrum. It would consequently be idle to inquire, if touch, for example, occupied the same seat as the power of comparison, since we are well assured

that this sense does not reside there at all. But sight and hearing, which we still suppose to be referrible to the cerebral lobes, do they occupy the same seat as the powers called Intellectual, such as the recollection and comparison of external impressions—the judgments formed of the properties of external objects—and the power of regulating our actions according to the ideas we possess of these objects? It is this point we shall now attempt to decide by experiment. I can assert that I have repeatedly removed different portions of the cerebral lobes, without injury to the senses of sight or hearing; although the animal lost by this ablation one or more of its intellectual powers. I subjoin many experiments, for example, which prove, that animals deprived of the anterior or frontal part of the brain have preserved vision and hearing, although they no longer possessed any knowledge of external objects, nor the desire to seek their food. To maintain, then, that sight and hearing reside in the cerebral lobes, is not to overcome, but to add to the difficulty of the inquiry, as it still remains to be determined what particular portion of these lobes is their appropriate seat; for the assertion, that they occupy the *same* seat as the intellectual powers, we hold to be refuted by experiment. Should it be demanded, How is it possible to see and hear, without recognising external objects? we shall content ourselves with stating the phenomenon, without attempting its explanation. We may, however, observe, that there exists a vast difference between the sensations of sight and hearing, and the knowledge of external objects: it is evident, in fact, that this knowledge presupposes experience, memory, judgment, comparison, elements which do not constitute an essential part in the sensations of sight and hearing; although the impressions furnished by the eye and ear may be indispensable materials of our ideas relative to external objects. This knowledge cannot exist without these sensations: but the converse does not hold true; the sensations may exist independently of all such knowledge. Such is precisely the case with the animals alluded to above—they see and hear; but as they have lost all memory, and hence the fruit of their former experiences—their means of comparing, reasoning, or discovering relations; they actually no longer recognise the objects which they see; they no longer know whether they are beneficial or injurious; whether they ought to avoid or approach them. Hence their actions display no rational motive. Although this may be the case, it results from what we are about to state, that it is an error to assert that the sensations, intellectual powers, instincts, &c. constitute essentially one and the same faculty, and that the destruction of one of these is necessarily followed by that of the others.

"Removal of the whole of the cerebral lobes.—I removed the cerebral lobes from a young cock and hen; they fell asleep very soon after, but a slight irritation sufficed to awake them. They withdrew their feet when pinched; attempted to escape when seized; awoke in surprise, and looked around with an astonished and stupid air when we introduced their food and drink into their throat, the sensibility of which appeared excessive; they neither drank nor ate of their own accord; did not recognise each other or any external object, nor perform any action with design. They, however, walked about their cage, and, on meeting with an opening, escaped, walked a few steps, but without any object in view: they did not appear sensible of any noise made near them. The memory of things and places no longer existed: their attention was roused by painful irritations alone. I resolved to cauterize the optic tubercles and the cerebellum of the hen, an operation which I knew rendered animals exceedingly alive to external impressions. The animal subjected to it, in the present instance, suddenly awoke, fixed its eyes, and assumed the attitude of attention. It sought to effect its escape, but could neither balance itself nor walk. Vision was also completely lost; the sensibility of the eye, however, or rather that of the conjunctiva, remained, as the animal cried on the application of a burning body to that membrane. These two facts (which were corroborated by an experiment, which, from its similarity to those detailed, it is unnecessary to quote) evidently prove that the brain is the seat of all ideas derived through the medium of the external senses: they likewise demonstrate, that all the sensations do not reside in the cerebrum, as these animals were sensible of, even attentive to irritations; and that the power of moving spontaneously, or, according to others, instinctively, may exist, when that of moving with the intention of executing some act, is entirely annihilated.

"Partial destruction of the lobes.—I laid bare and cauterized the cerebral hemisphere of a pigeon. It fled, striking itself against every object it encountered: when seized, it uttered shrieks of terror and anger, and struggled violently to extricate itself. It retained all its senses and locomotive powers; but appeared to be deprived of memory, and therefore of the power of recognising external objects, and of executing its movements with any determinate aim. On the following days it preserved the attitude of profound repose—supported itself with difficulty—erected its head, had a tendency to fall backwards—rested on its tail, as if to augment its support in the direction where it was most required. I conceive that these phenomena, indicative of injury of the cerebellum, may be explained by referring to the compression of this organ by the swollen hemispheres of the ce-

rebrum. I consequently removed the pressure, by separating the crust which covered the lobes; the pigeon was very soon afterwards able to preserve its equilibrium, and to walk a little when urged to do so. During the removal of the crust it uttered cries, such as animals of the same species are accustomed to do when irritated. When not disturbed, it assumed the attitude of sleep; stretched itself, shook its wings and tail, carried its feet to its head, as if to scratch it, and opened its eyes on the occurrence of any noise. It was certainly sensible of these irritations, and appeared to see and hear. It invariably made violent efforts to escape when caught; but as soon as released, it remained motionless, not knowing where to run, and no longer possessing memory. It swallowed food only when forced to do so. When placed upon a table, it looked down, avoided the edge, and did not throw itself upon the ground. It sometimes pecked the ground, but never took up the grains placed before it. It was for some time confined in a cage with four young pigeons that were constantly demanding food: it did not appear to recognise them, but, fatigued by their continued noise, roused itself, and walked to and fro, as if to escape from them. The cerebral lobes were found, after death, to be reduced to the consistence of soup, the disorganization extending to the very base; which was, if not entirely uninjured, but very slightly altered. The optic tubercles and tuber annulare were healthy: the cerebellum was slightly reddened and injected. The same experiment was tried on a rabbit, with the same results. It appears from these two experiments that the disorganization of the convexity of the cerebral hemispheres causes great disturbance in the intellectual phenomena, without destroying the external senses. These two animals, in fact, preserved the use of their senses, while they had lost the power of recognising external objects, or recollecting the relation in which they stood to these objects. Omitting the sixth, seventh and eighth experiments, on account of their exact resemblance to the preceding, the description of the ninth is as follows.

"June 29th.—I exposed the cerebral hemispheres of a pigeon. So great was the loss of blood, and consequent weakness which followed, that death seemed inevitable. I did not, therefore, from the fear of killing the bird, touch the cerebrum itself, as I had proposed in commencing the experiment. The blood, however, coagulated on the surface of the wound, and the animal being exposed to the rays of the sun, began gradually to revive. The hemorrhage ceased; the animal roused itself, placed its head under its wing, and appeared to sleep. It remained during the day in the same posture, and only occasionally shook its head and wings as if to clean itself.—June 30th. In the

terior half, and those which remained unimpaired as proper to the remainder of the encephalic mass.

"*Experiment XI.*—I made an opening on each side of the forehead of a young dog, and forced a red-hot iron into each of the anterior lobes of the brain. Immediately afterwards the animal, after howling violently, lay down as if to sleep. On urging it, it walked, or even ran, for a considerable space: it did not know how to avoid obstacles placed in its way, and on encountering them groaned or even howled violently. Deprived of the knowledge of external objects, it no longer made any movements either to avoid or approach them. But it still could perform such motions as are called *instinctive*: it withdrew its feet when they were pinched, shook itself when water was poured on it, &c. It turned incessantly in the cage as if to get out; became impatient of the restraint thus imposed; it enjoyed the use of all its senses: it licked and smelled at different objects around it, and putting its mouth by accident into a vessel containing water it drank a little. I then offered it milk in the same vessel, when, after demurring for some time, it attempted to drink the liquid, but it was necessary to hold its head to the dish, otherwise, such was its stupidity, it would not have known where to find the food it had tasted the previous instant. I afterwards placed a morsel of meat on its nose: it immediately began to smell it, and having got it attempted to eat it. It slept occasionally for a short time, and on awaking began its mournful cries. We tried to keep it quiet by beating it, but it only cried more loudly: it did not understand the lesson; it was incorrigible.—4th, It continues to complain; walks, but most frequently turns round about; is impatient if opposed, and cries on the slightest irritation: does not recognise the objects which it sees, and eats only when its food is presented to it, because it is then apprized of the circumstance by its sense of smell. It smells at and licks the surrounding objects: from this it appears evident that sensation may exist, when certain mental acts, such as the knowledge of places, persons, and other external objects, and educability are completely destroyed.—5th, Its fore-legs are half paralyzed; in walking, or rather in dragging itself along, it rests upon the back of its foot bent upon the leg. No change has taken place in respect to its intellectual power: as its irrepressible cries disturbed the neighbourhood, I was obliged to kill it.—Examination of the brain: Each of the openings in the cranium corresponded to the middle part of the lateral convex surface of the cerebral hemisphere. From thence the instrument had penetrated into the thickness of the anterior lobes: its passage was marked by a track of cerebral substance, reduced to the consistence of thick milk, resembling the lees of wine: this alteration was more evident on the left

with its beak in the same manner not only at these animals, but at all objects which we presented to it, or were within its reach. We frequently had occasion to carry it with us from the country to Paris, and from Paris to the country: it remained fixed to the spot on which it was placed in the carriage, although it kept its balance with difficulty, and from time to time dealt blows at the cushions, straw, or at whatever object it first encountered. Individuals who observed it remain tranquilly wherever we placed it, imagined that it was an example of *adversability*, when it was a proof of profound stupidity. — July 9th, The animal sunk under a new experiment. The anterior part of the brain was found, on examination, to be completely destroyed; in the remainder, the cortical substance adhered to the membranes, and the cerebral mass throughout presented an extraordinary degree of softness. The cerebellum, thalami optici, and medulla oblongata, were healthy.

Experiment XL. — May 5th, I sawed transversely the cranium and cerebral hemispheres of a young dog. The section was made in the middle of the superior surface of the cranium. I placed a slip of wood between the lips of the wound, in order to arrest the hemorrhage. The animal walked immediately after the operation, but without being guided by any rational design; it then uttered some plaintive cries and lay down. Its walk was very unsteady: it rose slowly after having rested for some time, and then walked with a sort of hesitation, at a venture, so to express it, as if it had been deprived of the accustomed guide of the movements of progression. It appeared to retain the use of its senses, cried, was impatient, and became angry when opposed; seemed surprised at its new condition, but had lost all memory and knowledge of external objects. To prevent its plaintive cries disturbing my neighbours, I enveloped it in a thick sac. On examining it some time afterwards, I found it had died from suffocation. I found that the cerebral hemispheres had been divided transversely into two parts, which were held together only by some thin bands which corresponded to the part at the base of the cranium. The posterior part, which was a little larger than the anterior, had preserved its connexions with the cerebellum and medulla oblongata. The effusion of blood both on the surface of the incision and at the base of the cranium was very slight. The brain was in this experiment divided into two parts, the anterior of which may be regarded as not existing, in its relation, as an organ of intellect. This division did not, however, completely deprive the animal of all the faculties collectively designated intellectual: it is then evident that different portions of the brain possess dissimilar functions. In the present case, we ought to regard those faculties of which the animal was deprived as belonging to the an-

terior half, and those which remained unimpaired as proper to the remainder of the encephalic mass.

"*Experiment XI.*—I made an opening on each side of the forehead of a young dog, and forced a red-hot iron into each of the anterior lobes of the brain. Immediately afterwards the animal, after howling violently, lay down as if to sleep. On urging it, it walked, or even ran, for a considerable space: it did not know how to avoid obstacles placed in its way, and on encountering them groaned or even howled violently. Deprived of the knowledge of external objects, it no longer made any movements either to avoid or approach them. But it still could perform such motions as are called *instinctive*: it withdrew its feet when they were pinched, shook itself when water was poured on it, &c. It turned incessantly in the cage as if to get out; became impatient of the restraint thus imposed; it enjoyed the use of all its senses: it licked and smelled at different objects around it, and putting its mouth by accident into a vessel containing water it drank a little. I then offered it milk in the same vessel, when, after demurring for some time, it attempted to drink the liquid, but it was necessary to hold its head to the dish, otherwise, such was its stupidity, it would not have known where to find the food it had tasted the previous instant. I afterwards placed a morsel of meat on its nose: it immediately began to smell it, and having got it attempted to eat it. It slept occasionally for a short time, and on awaking began its mournful cries. We tried to keep it quiet by beating it, but it only cried more loudly: it did not understand the lesson: it was incorrigible.—4th, It continues to complain; walks, but most frequently turns round about; is impatient if opposed, and cries on the slightest irritation: does not recognise the objects which it sees, and eats only when its food is presented to it, because it is then apprized of the circumstance by its sense of smell. It smells at and licks the surrounding objects: from this it appears evident that sensation may exist, when certain mental acts, such as the knowledge of places, persons, and other external objects, and educability are completely destroyed.—5th, Its fore-legs are half paralyzed; in walking, or rather in dragging itself along, it rests upon the back of its foot bent tip-on the leg. No change has taken place in respect to its intellectual power: as its irrepressible cries disturbed the neighbourhood, I was obliged to kill it.—Examination of the brain: Each of the openings in the cranium corresponded to the middle part of the lateral convex surface of the cerebral hemisphere. From thence the instrument had penetrated into the thickness of the anterior lobes: its passage was marked by a track of cerebral substance, reduced to the consistence of thick milk, resembling the lees of wine: this alteration was more evident on the left

than on the right side. The rest of the brain, the cerebellum, and medulla oblongata, offered no appreciable departure from the natural structure.

“These two last experiments confirm the results obtained from the preceding. They prove, in fact, that in dogs, as in the other animals subjected to experiment, the injury of the anterior part of the cerebrum has been followed by an evident disorder of the intellectual functions, without having produced the loss of the external senses. The experiments which have been detailed are sufficient to shew the truth of what we have advanced, that sensation does not reside in the same place as the intellectual powers properly so called, and that these two orders of phenomena do not constitute, as M. Flourens contends, one simple phenomenon, and do not depend upon one simple faculty. I have likewise cauterized, disorganized, and removed the posterior part of the cerebral lobes of various animals, without these experiments being accompanied by any loss of sensation. We do not mean from this to deny the unity of the intellectual being considered generally: we have solely wished to prove that this being, speaking physiologically, is composed of different elements, which concur in forming one whole; in the same way that the body of an animal is *one*, although it may consist of a number of different parts or organs.”

(To be continued.)

ARTICLE IX.

CASES OF DEFICIENT PERCEPTION OF COLOURS.

It is generally known that there exist individuals, who, though they possess acute vision, and are able to distinguish with perfect accuracy the form, magnitude, weight and number of bodies, are yet in a greater or less degree incapable of discriminating between certain colours. Such instances are by no means rare in society; and as the subject is curious, and has for the last half century in no small degree puzzled the wits of philosophers, we shall devote a few pages to bringing together, with as much brevity as possible, the details of all cases of this nature of which we have been able to collect an account. They possess little novelty to the phrenologist; but are of some value as illustrations of the principles of our science, and as additions to the evidence on which those principles are founded.

The earliest case which we have been able to discover is pub-

lished in the Philosophical Transactions for 1777*. It is entitled "An account of persons who could not distinguish colours," and is contained in a letter by Mr Joseph Huddart to the Rev. Dr Priestley. The letter is as follows:—

" Sir,

" When I had the pleasure of waiting on you last winter, I had hopes before now of giving you a more perfect account of the peculiarity of vision which I then mentioned to you, in a person of my acquaintance in the north; however, if I give you the best I am able, I persuade myself you will pardon the delay.

" You will recollect I told you that this person lived at Maryport in Cumberland, near which place, viz. at Allonby, I myself live, and having known him about ten years, have had frequent opportunities of conversing with him. His name was Harris, by trade a shoemaker. I had often heard from others, that he could discern the *form* and *magnitude* of all objects very distinctly, but could not distinguish *colours*. This report having excited my curiosity, I conversed with him frequently on the subject. The account he gave was this: That he had reason to believe other persons saw something in objects which *he* could not see; that their language seemed to mark qualities with confidence and precision which he could only guess at with hesitation, and frequently with error. His first suspicion of this arose when he was about four years old. Having by accident found in the street a child's stocking, he carried it to a neighbouring house to inquire for the owner: he observed the people called it a *red* stocking, though he did not understand why they gave it that denomination, as he himself thought it completely described, by being called a *stocking*. The circumstance, however, remained in his memory, and, together with subsequent observations, led him to the knowledge of his defect. As the idea of colours is among the first that enters the mind, it may perhaps seem extraordinary that he did not observe his want of it still earlier. This, however, may in some measure be accounted for by the circumstance of his family being Quakers, among whom a general uniformity of colours is known to prevail.

" He observed also, that, when young, other children could discern cherries on a tree by some pretended difference of colour, though he could distinguish them from the leaves only by their difference of size and shape. He observed also, that by means of this difference of colour, they could see the cherries at a greater distance than he could, though he could see objects at as great a distance as they; that is, when the sight was not

* Vol. lxvii. p. 260.

assisted by the colour. Large objects he could see as well as other persons; and even the smaller ones, if they were not enveloped in other things, as in the case of cherries among the leaves.

"I believe he could never do more than guess the name of any colour; yet he could distinguish white from black, or black from any light or bright colour. Dove or straw-colour he called white, and different colours he frequently called by the same name: yet he could observe a difference between them when placed together. In general, colours of an equal degree of brightness, however they might otherwise differ, he frequently confounded together. Yet a striped ribbon he could distinguish from a plain one; but he could not tell what the colours were with any tolerable exactness. Dark colours in general he often mistook for black, but never imagined white to be a dark colour, nor a dark colour to be a white colour.

"He was an intelligent man, and very desirous of understanding the nature of light and colours, for which end he had attended a course of lectures on natural philosophy.

"He had two brothers in the same circumstances as to sight, and two other brothers and sisters, who, as well as their parents, had nothing of this defect.

"I asked one of the first mentioned brothers, whether he had ever seen a rainbow? He replied he had often, and could distinguish the different colours; meaning only, that it was composed of different colours, for he could not tell what they were.

"I then procured and shewed him a piece of ribbon: he immediately, without any difficulty, pronounced it a striped and not a plain ribbon. He then attempted to name the different stripes; the several stripes of white he uniformly and without hesitation called white; the four black stripes he was deceived in, for three of them he thought brown, though they were exactly of the same shade with the other, which he properly called black. He spoke, however, with diffidence as to all those stripes; and it must be owned, the black was not very distinct. The light green he called yellow, but he was not very positive: he said, 'I think this is what you call yellow.' The middle stripe, which had a slight tinge of red, he called a sort of blue. But he was most deceived by the orange colour; of this he spoke very confidently, saying, 'This is the colour of grass, this is green.' I also shewed him a great variety of ribbons, the colour of which he sometimes named rightly, and sometimes as differently as possible from the true colours.

"I asked him whether he imagined it possible for all the various colours he saw to be mere difference of light and shade; whether he thought they could be various degrees between white and black, and that all colours could be composed of

these two mixtures only? With some hesitation he replied, 'No, he *did* imagine there was some other difference.'

"I could not conveniently procure from this person an account in writing; but I have given his own words, having set them down in writing immediately. Besides, as this conversation happened only the 10th of last month, it is still fresh in my memory. I have endeavoured to give a faithful account of this matter, and not to render it more wonderful than it really is.

"It is proper to add, that the experiment of the striped ribbon was made in the day-time, and in a good light. I am, Sir," &c.

The publication of this case called forth another, which will be found in the Philosophical Transactions for 1778*. As we formerly published it at length in the third volume of our Journal (page 44.), it is unnecessary here to give more than an outline of it. The individual narrates his own case:—"I do not know," says he, "any green in the world: a pink and pale blue are alike; I do not know one from the other. A full red and a full green the same. I have often thought them a good match; but yellows (light, dark, and middle), and all degrees of blue, except those very pale, commonly called sky, I know perfectly well, and can discern a deficiency in any of these colours to a particular nicety; a full purple and deep blue sometimes baffle me." He then mentions an occasion on which a "rich claret-coloured dress" appeared "as much a black to his eyes as any black that ever was dyed;" and adds, "*I can see objects at a distance when I am on travel with an acquaintance, and can distinguish the size, figure, or space equal to most, and I believe as quick, colour excepted.*" "My eyes, thank God, are very good at discerning men and things." The defect was hereditary in his family,—his father, sister, two nephews, and a maternal uncle, having a similar imperfection of vision.

This case seems to have created some interest at the time, and to have gone the round of the periodicals; at least it is to be found in the Edinburgh Weekly Magazine for 17th November 1779, vol. xlvii., and in the Westminster Magazine for the same year, page 515.

There is a remarkable uniformity in the published cases of this description; and we shall therefore give a brief summary of all those of which, so far as we have been able to discover, any account has been published.

In the fourth article of the Transactions of the Phrenological Society, Dr Butter relates a very interesting case of Mr Robert

* Vol. lxxviii. Part 2. p. 612.

Tucker, then nineteen years of age, who had only two years before that time, accidentally discovered that he was unable to distinguish several of the primitive colours from each other. Being employed in making an artificial fly for fishing, he intended to have constructed the body of the fly with silk of an *orange* colour, whereas he used that of a *green*. When the error was pointed out to him by his younger brother, he could not believe it till it was confirmed by other persons. Threads of orange and green silk were then twisted round his finger, and he could not perceive any difference in them, but thought them to be the same coloured thread twisted several times. Many of the primitive colours he neither knows when they are shewn, nor remembers after they have been pointed out to him; and he confounds certain colours with each other, as green with orange, red with brown, pink with blue, black with bottle-green, and indigo and violet with purple. He knows only the yellow colour to a certainty. A bay, a chestnut, and a brown horse, he described to be of the same colour, and he knew the colours of only black or white horses. He knew not the blood on a spaniel's neck from dirt, until he was told, and had seen the wound in the dog's ear. Mr Tucker's vision is "exceedingly acute. He sees the forms of surrounding objects, like other people, at noon-day, in the twilight, and at night*."

The case of Mr John Dalton, which is reported by himself in the Memoirs of the Literary and Philosophical Society of Manchester †, bears considerable resemblance to those narrated. Its principal features are the following:

"*Blue, purple, pink, and crimson,*" says Mr Dalton, "are, according to my idea, all referrible to blue. I have often seriously asked a person whether a flower was blue or pink, but was generally considered to be in jest. Notwithstanding this, I was never convinced of a peculiarity in my vision, till I accidentally observed the colour of the *Geranium zonale* by candle-light, in the autumn of 1792. The flower was pink, but it appeared to me almost an exact sky-blue by day: in candle-light, however, it was astonishingly changed, not having then any blue in it, but being what I called red, a colour which forms a striking contrast to blue. Not then doubting but that the change of colour would be equal to all, I requested some of my friends to observe the phenomenon; when I was surprised to find they all agreed that the colour was not materially different from what it was by day-light, except my brother, who saw it in the same light as myself." He then, with the assistance of an intelligent friend, entered upon a philosophical investigation

*See Phrenological Transactions, page 209.

† v. 1798, part i. page 28.

of the peculiarities of his vision, and the result is fully detailed in the Memoirs.

"My observations," says he, "began with the solar *spectrum*, or coloured image of the sun, exhibited in a dark room, by means of a glass prism. I found, that persons in general distinguish six kinds of colour in the solar image; namely, *red, orange, yellow, green, blue, and purple*. Newton, indeed, divides the purple into *indigo and violet*; but the difference between him and others is merely nominal. To me it is quite otherwise. I see only *two*, or at most *three* distinctions. These I should call *yellow and blue, or yellow, blue, and purple*. My yellow comprehends the *red, orange, yellow, and green* of others; and my blue and purple coincide with theirs. That part of the image which others call red, appears to me little more than a shade or defect of light. After that, the orange, yellow, and green seem *one* colour, which descends pretty uniformly from an intense to a rare yellow, making what I should call different shades of yellow. The difference between the green part and the blue part is very striking to my eye: they seem to be strongly contrasted. That between the blue and purple is much less so. The purple appears to be blue, much darkened and condensed."

Mr Dalton then proceeds to state the results of his observations on the colours of natural and artificial bodies in general, both by day-light and candle-light. He mostly used ribbands for the artificial colours. The following are extracts:—

"All crimsons appear to me to consist chiefly of dark blue, but many of them seem to have a tinge of strong dark brown. I have seen some specimens of *crimson, claret, and mud*, which were very nearly alike. Woollen yarn, dyed crimson, or dark blue, is the same to me. *Pink* seems to be composed of nine parts of light blue, and one of red, or some colour which has no other effect than to make the light blue appear dull and faded a little. Pink and light blue, therefore, compared together, are to be distinguished no otherwise than as a splendid colour from one that has lost a little of its splendour. Besides the pinks, roses, &c., of the gardens, the following British Flora appear to me blue, namely, *Statice Armeria, Trifolium pratense, Lychnis Flos-auculi, Lychnis dioica*, and many of the *Gerania*."

"By candle-light, red and scarlet appear much more vivid than by day; crimson loses its blue and becomes yellowish-red. Pink is by far the most changed; indeed it forms an excellent contrast to what it is by day. No blue now appears; yellow has taken its place. Pink, by candle-light, seems to be three parts of yellow and one red, or a reddish-yellow. The blue, however, is less mixed by day than the yellow by night. Red, and particularly scarlet, is a superb colour by candle-light; but, by

day, some reds are the least showy imaginable. I should call them dark drabs."

"I do not find that I differ materially from other persons in regard to *orange* and *yellow*, either by day or candle light."

"Of *green*, by day-light, I take my standard idea from *grass*. This appears to me very little different from red. The face of a laurel-leaf (*Prunus lauro-cerasus*), is a good match to a stick of red sealing-wax; and the back of the leaf answers to the lighter red of the wafers."—"Orange and green have much affinity also. I can distinguish the vegetable greens one from another, as well as most people, and those which are nearly alike, or very unlike to others, are so to me. A decoction of Bohea tea, a solution of liver of sulphur, ale, &c. &c., which others call brown, appear to me green. Green woollen cloth, such as is used to cover tables, appears to me a dull, dark, brownish-red colour. A mixture of two parts of mud and one of red would come near it. It resembles a red soil just turned up by the plough. When this kind of cloth loses its colour, as other people say, and turns yellow, then it appears to me a pleasant green. Very light green paper, silk, &c. is white to me."

"I apprehend that *blue* appears very nearly the same to me as to other people, both by day-light and candle-light."—"Purple seems to me a slight modification of blue, and I seldom fail to distinguish them."

"My idea of *brown* I obtain from a piece of white paper heated almost to ignition. This colour, by day-light, seems to have a great affinity to green, as may be imagined from what I have said of greens. Browns seem to me very diversified; some I should call red: dark-brown woollen cloth I should call black."

Mr Dalton's brother saw colours very nearly in the same light as himself. He mentions also, that having made known the circumstances to his acquaintances, he found several in the same predicament; and that out of twenty-five of his pupils, to whom he explained the subject, two were found to agree with him, and, on a similar occasion, one. "Like myself," says he, "they could see no material difference betwixt pink and light blue by day, but a striking contrast by candle-light; and, on a fuller investigation, I could not perceive they differed from me materially in other colours."—"I think I have been informed of nearly twenty persons whose vision is like mine."—"Our vision, except as to colours, is as clear and distinct as that of other persons. Only two or three are (like Mr Dalton himself) short-sighted. It is remarkable that I have not heard of one female subject to this peculiarity.

"From a great variety of observations made with the above-mentioned persons, it does not appear to me that we differ more from one another than persons in general do. We certainly

agree in the principal facts which characterize our vision." He then gives a detail of those characteristic facts, which, however, want of room compels us to omit.

Mr Dalton concludes his paper by attempting to account for his anomalous vision. He conjectures, that one of the humours of his eyes must have been "a transparent, but coloured medium, so constituted as to absorb *red* and *green* rays principally, and to transmit blue and other colours more perfectly." "I suppose," says he, "it must be the vitreous humour, otherwise, I apprehend, it might be discovered by inspection, which has not been done." We must refer to the essay itself for a farther exposition of his views.

The case of Mr James Milne of Edinburgh is generally known to phrenologists. Like the other individuals, he is able to perceive *forms* and *distances* with perfect facility, and some of his relations also have a difficulty in distinguishing colours. Mr Milne, when bound apprentice in a draper's shop, gave a purchaser a bright scarlet ribbon to match with a piece of green corduroy. He also mistook a gown of a mixed brown colour for green. He knows blues and yellows, but browns, greens, and reds he cannot distinguish. Blue and pink, when about the same shade, and seen in day-light, appear to him the colour of the sky, which he calls blue; but, seen in candle-light, the pink appears as a dirty buff, and the blue retains the appearance which it had in day-light. The grass appears to him more like an orange than any other coloured object with which he is acquainted. Indigo, violet, and purple, appear only different shades of one colour, darker or lighter, but not differing in their bases. He never mistakes black and white objects: he distinguishes easily between a black and blue, and is able even to tell whether a black be a good or a bad one. In the rainbow he perceives only the yellow and the blue distinctly. He sees that there are other shades or tints, but what they are he cannot distinguish, and is quite unable to name them. In day-light, crimson appears like blue or purple, but in candle-light it seems a bright red*.

The case of Mr Sloane is also well known†. He is at a loss to distinguish betwixt green and brown, and likewise between some shades of red and blue. His sight is otherwise perfect.

In the *Medico-Chirurgical Transactions*, (vol. vii. part 2, p. 477), an account is given by Dr W. Nicholl of a boy, eleven years of age, who was subject to a similar imperfection. "He does not call any colour green. Dark bottle-green he calls

* See *Phrenological Transactions*, page 224, and Combe's System, 3d edit. page 402.

† *Phrenological Transactions*, p. 226.

brown, confounding it with certain browns. Light yellow he calls yellow; but darker yellows and light browns he confounds with red. Dark brown he confounds with black. Pale green he calls light red; common green he terms red. Light red and pink he calls light blue; red he calls by its proper name. On looking through a prism, he said he could discover no colours but red, yellow, and purple."

The mother of this boy is stated to be free from this imperfection of vision, but her father has it. This gentleman had two brothers and three sisters. One of the brothers had this peculiarity, but the other brother and all the sisters were without it. The father himself was in the navy, and several years ago he purchased a blue uniform coat and waistcoat, with red breeches to match the blue. The brother of the boy's grandfather, it is mentioned, has mistaken a cucumber for a lobster, and a green leek for a stick of red sealing-wax.

In the ninth volume of the *Medico-Chirurgical Transactions*, (part 2, p. 359), another case is published, of a gentleman residing near Mauchline in Ayrshire, who had great difficulty in discriminating between certain colours. "The colour I am most at a loss with," says he, "is green; and in attempting to distinguish it from red, it is nearly guess-work. Scarlet, in most cases, I can distinguish; but a dark bottle-green I could not, with any certainty, from brown. Light yellow I know; dark yellow I might confound with light brown, though in most cases I think I should know them from red." This gentleman had a brother with a similar defect, and mentions that his sight was otherwise perfect.

Mr Dugald Stewart is said to have experienced a like inability. He first perceived his defect when one of his family was calling his attention to the beauty of the fruit of the Siberian crab, which he could not distinguish from the leaves but by its size and form. Mr William Scott, a member of the Phrenological Society, has a similar imperfection. Pink and pale blue appear to him the same, and he cannot distinguish red from green, or dark blue from purple. Blue and yellow appear to him entire opposites, as much so as black and white.

Mr Harvey has described in the *Edinburgh Transactions* the case of a tailor now alive and upwards of sixty years of age, who could distinguish with certainty only white, yellow, and grey. On one occasion he repaired an article of dress with *crimson* in place of black silk; and on another occasion he patched the elbow of a blue coat with a piece of crimson cloth. He regarded indigo and Prussian blue as black; he considered purple as a modification of blue; and green puzzled him extremely. The darker kinds he considered to be brown, and the lighter kinds pale orange. He experienced no difficulties with good yellow.

lows. His notions of orange were imperfect. The reddish oranges he termed brown, and the lighter kinds yellow. He considered carmine, lake, and crimson to be blue. The solar spectrum he regarded as consisting only of yellow and light blue. None of the family of this person had the same defect.

We have read also of a gentleman in the prime of life who perceived only blue and yellow in the spectrum of four colours in which there were red, green, blue, and violet. Whenever the colours of the spectrum were absorbed by a reddish glass, except red and dark green, he saw only one colour, viz. yellow or orange, but could not distinguish which of these two colours it was.

Dr Spurzheim has observed similar instances. "I know," says he, "a family, all the individuals of which distinguish only black and white; Dr Unzer of Altona could not perceive green and blue; and at Vienna I saw a boy who was obliged to give up his trade as a tailor, because he could not distinguish different colours. I have observed similar instances at Paris, at Dublin, and at Edinburgh*.

Finally, At a meeting of the London Phrenological Society, in the beginning of 1826, a gentleman was presented, unable to distinguish between several different colours. A variety of differently coloured pieces of silk were shewn him, but his mistakes were ludicrous and incorrigible †.

The cause of these phenomena has considerably perplexed the philosophers of the old school. The Royal Society did not even attempt to give a theory of the two cases which were read before it in 1777 and 1778. Dalton, as already mentioned, accounted for his peculiarities by supposing the vitreous humour of his eyes to be of a blue tint, and thus fitted "to absorb red and green rays principally, and to transmit blue and other colours more perfectly." This theory, however, is unsupported by the Baconian requisite of *facts*. It is not proved that the vitreous humour had really such a tint; and even if it had, the phenomena would by no means be accounted for. If we look through a green or blue glass, we are still able to see every primitive colour on bodies with a shade of green or blue over them. A pair of blue spectacles, certainly, will not cause us to see red, orange, yellow, and green, as the same colour, or the face of a laurel leaf to appear of the hue of red sealing-wax.

Dr Thomas Young rejects Dalton's theory, and thinks it "much more simple to suppose the absence of paralysis of those fibres of the retina, which are calculated to perceive red." There is no evidence of the existence of such fibres in the retina, and

* Phrenology, p. 276.

† Phrenological Journal, iii. 265.

therefore Dr Young's explanation must fall to the ground. Others think it probable that the loss of red light in certain eyes may be ascribed to the *retina* having a blue tint. This also is a gratuitous hypothesis, and has not been proved by dissection. The only other account of the matter that we are aware of is, that, as the ears of certain persons have been shewn by Dr Wollaston to be insensible to sounds at one extremity of the scale of musical notes, so is the retina "insensible to the colours at one end of the spectrum." This theory, however, is, like the others, repugnant to sound logic, and affords no satisfactory explanation of the varied phenomena detailed in the foregoing cases.

In accounting for this curious peculiarity, phrenologists have taken facts for their basis. Their observations tend to prove that individuals whose power of distinguishing colours is imperfect, have a deficiency of that part of the brain immediately over the middle of the orbits, the function of which has been ascertained to be the perception of the existence and relations of colours. Dr Butter states, that "in comparing Mr Robert Tucker's cranium with casts, and with plates in Dr Spurzheim's book, he was forcibly struck with the flatness of his os frontis, at the place in the orbitary ridge where the organ of Colouring is said to be situated; and this flatness, it is known, indicates a small development of the organ *." The Phrenological Society possesses casts of the heads of Mr Milne and Mr Scott, which have a decided depression in the same situation. In Mr Sloane's forehead, of which also the Society has a cast, the deficiency is not so great as in those of the other two gentlemen; but the organ is greatly less developed than in the masks of individuals distinguished for knowledge of the harmonies of colours. With regard to the gentleman at the London Phrenological Society, it is mentioned that "his eyes appeared perfect, — nay his sight was singularly acute; and he was neither long nor short-sighted; but over the orbit, in the spot marked by Gall as the seat of the organ of Colour, a depression was evident to the whole assembly †."

ARTICLE X.

NOTICE OF LAURENCE MACDONALD, Esq. Sculptor.

MR MACDONALD's father was a small farmer on the estate of Mr Oliphant of Gask, in Perthshire. From his earliest recollection he took great delight in drawing and cutting figures.

* Phreno

† Phrenological Journal, iii. 265.

At an early age he was bound apprentice to a builder in Perth, and served the usual number of years with assiduity and faithfulness. He attended school at his leisure hours, and received instruction in the elements of mathematics and architectural drawing. He was animated by a powerful love of statuary, and, a short time after the expiry of his apprenticeship, on his return home, he cut, in freestone, a full length statue of his little brother. The figure was naked. He was unskilled in the art of giving equipoise to a figure in a curved attitude, and chiselled his brother resting perpendicularly on both legs, the arms descending perpendicularly from the shoulder to the elbow-joint, and rising perpendicularly from the elbow, the tip of the fingers reaching the level of the shoulders. He discovered, subsequently, that this is the attitude of the earliest Egyptian statues.

This figure, and some other specimens which he had cut with the chisel, fell under the notice of Mr Gillespie Graham, architect, who at once recognised their superiority, and warmly befriended the artist. He gave him instant employment in cutting ornamental figures for some great works, the erection of which he was then superintending; and strongly recommended him to the attention of Mrs Oliphant, whose husband by this time was dead. That lady handsomely invited Mr Macdonald to accompany her to Rome, whither she was then going, and offered to defray his expenses and support him while there. He was prevented by accidental occurrences from travelling along with her, but quickly followed her to Rome. He commenced his studies as a sculptor with the greatest ardour, and pursued them with so much assiduity and success, that, at the end of one year, his talents drew forth their own reward; his professional employment yielded him sufficient funds for his support; and he released Mrs Oliphant from all further burden of his education. He continued his studies for two years longer, and was at length reluctantly compelled, by a severe attack of fever, to return to his native air for the restoration of his health.

During his stay in Rome he executed several works in marble, which were subsequently exhibited in this country; in particular, the statues of the Girl despatching the Carrier Pigeon, of the Boy and Bird, and of the Slings Boy. These works embody the grand elements of Mr Macdonald's genius, grace, beauty, and expression; and early marked him as an artist of superior talents in the judgment of individuals capable of appreciating his merits.

While travelling in the Alps, after great exhaustion from fatigue, he had a vision of loveliness, purity, and beauty, which haunts his imagination to the present hour. He saw before him, or thought he saw, a female figure, bearing all the lineaments of a

mortal form, yet withal, of such exquisitely graceful proportions—with features so full of loveliness, and a countenance so resplendent with beauty, benignity, and intelligence, that chisel never fashioned, and pencil never drew, a form so pure, so ethereal, yet so completely human. He gazed in rapture, and every line sank deep into his memory. She vanished: she was an illusion, the result of over-excited action in his then enfeebled brain; but she was the personification of his studies in his hours of vigorous exertion. She was a being of imagination, composed of all the elements of loveliness and beauty which his keen intellect had gathered from the great masters of Italian art, and which his own ardent and fertile genius had supplied by its original inspirations, combined into one harmonious form, by the correct judgment which presides over all his works. She vanished from before his eyes, but she left her outline indelibly traced in his memory; he is accustomed to narrate the story of this vision to his friends with some portion of the inspired enthusiasm with which he beheld it;—it has been named Mr Macdonald's Vision of the Spirit of Beauty.

Phrenologists are acquainted with so many examples of spectral illusions of this description, connected with over-excitement of the organs of the Knowing Faculties and Wonder, that it is unnecessary to dwell on any explanation of the subject.

In the beginning of the year 1827, Mr Macdonald returned to Edinburgh, and again Mr Gillespie Graham proved to him an attached and efficient friend: he introduced him to Sir Evan Macgregor, afterwards to the Duke of Atholl, Lord Gwydir, and other influential individuals, whose orders for busts, while they maintained his independence, gave him encouragement to dedicate his talents to the production of the great works which he subsequently achieved.

The phrenologist will now be anxious to learn what combination of faculties this gifted individual possesses. The Phrenological Society has the honour of ranking him as one of its most zealous and intelligent members. He became acquainted with the elements of the science in Italy, through the instruction of Dr Scott, and on his return to Edinburgh commenced seriously to study it. He entered as a member of the Society on 1st day of February 1827, and although he has not communicated essays, he has applied its principles in his art; he has maintained its truth and utility in every circle to which his influence extended; he modelled an admirable bust of Dr Spurzheim, and presented it to the Society; he has left us a cast of his own head, and expressed in warm terms his gratitude to Phrenology and its advocates for a most interesting and valuable addition to his philosophical and practical principles. The development is as follows:—

MEASUREMENTS.

	Inches.
From occipital spine to Individuality,	7½
Concentrativeness to Comparison,	7½
Ear to occipital spine,	4½
—— Individuality,	5½
—— Firmness,	5½
Destructiveness to Destructiveness,	5½
Secretiveness to Secretiveness,	6
Cautiousness to Cautiousness,	5½
Ideality to Ideality,	4½
Constructiveness to Constructiveness,	4½

GENERAL APPEARANCE.

Size of anterior lobe, large, particularly in the upper region.

Portion of brain above Cautiousness, large.

—— Causality, large.

Temperament, nervous and bilious.

ORGANS.

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Amativeness, large. 2. Philoprogenitiveness, rather large. 3. Concentrativeness, full. 4. Adhesiveness, full. 5. Combativeness, full. 6. Destructiveness, large. 7. Secretiveness, <i>very large</i>. 8. Acquisitiveness, full. 9. Constructiveness, <i>rather large</i>. 10. Self-esteem, large. 11. Love of Approbation, <i>very large</i>. 12. Cautiousness, full. 13. Benevolence, <i>very large</i>. 14. Veneration, <i>very large</i>. 15. Firmness, large. 16. Conscientiousness, large. 17. Hope, <i>rather large</i>. | <ol style="list-style-type: none"> 18. Wonder, large. 19. Ideality, full. 20. Wit, full. 21. Imitation, <i>very large</i>. 22. Individuality, <i>rather large</i>. 23. Form, <i>large</i>. 24. Size, full. 25. Weight, <i>rather large</i>. 26. Colouring, moderate. 27. Locality, <i>rather large</i>. 28. Number, <i>rather large</i>. 29. Order, moderate. 30. Eventuality, full. 31. Time, large. 32. Tune, <i>rather full</i>. 33. Language, full. 34. Comparison, <i>very large</i>. 35. Causality, <i>very large</i>. |
|---|--|

The first element in the genius of Mr Macdonald is his nervous and bilious temperament, combining constitutional activity with strength. The next is the large anterior lobe, giving him at once depth and comprehensiveness of intellect; we find the elements of his professional talents in his large Constructiveness, Secretiveness, Individuality, Form, Comparison, Causality, Imitation, and Wonder. The relation of this combination to the fine arts has been so fully discussed in Mr Scott's admirable Essay on the genius and character of Raphael, that it is unnecessary here to enter into a repetition of the details.

The coronal region of the brain is very large in Mr Macdonald, giving him that lofty moral enthusiasm by which he is distinguished. Those who have had the pleasure of intimate acquaintanceship with him, have been delighted with the warm yet habitual serenity of his feelings and affections: there

simplicity and singlemindedness about him, combined with a gaiety and cheerfulness of disposition, which render him a delightful companion to all ages and both sexes. His fine intellect has been successfully cultivated since he took up his residence in Edinburgh; and while his native bent is towards poetry and art, he has not neglected the great elements of moral and intellectual philosophy. He is capable of tracing character to its first principles, and of expounding with perspicuity and soundness the effects of different combinations of its original elements as they appear in individual beings. He possesses the fire and inspiration of the poet, and several of his occasional productions have been published, which indicate the close alliance between poetry and art. He has on various occasions displayed also no mean eloquence in speech. Those who read his late address in returning thanks for the honour conferred on him by his friends at a public dinner, will concur with me in saying, that Mr Macdonald was not surpassed in eloquence by any of the distinguished guests at that festive board; and when I mention the names of Professor Wilson and Mr Solicitor-General Cockburn, it will be difficult to bestow a higher encomium on the talents of our friend.

I introduce these remarks chiefly to shew how omnipotent Nature is in vindicating her own greatness. In the cast of Mr Macdonald, we perceive a beautiful and equal development of almost all the organs of the mind; the propensities are ample, without being too large; the sentiments are splendidly developed, but in great equality; and the intellectual organs are also decidedly large, the reflecting region predominating; while an admirable temperament gives life and energy to the whole. Such a combination could not remain in obscurity; and, accordingly, it has speedily risen to its native region of usefulness and fame, and we may regard its career as still only in its commencement, if life and health continue to be vouchsafed to the possessor. The very large organs of Imitation and Secretiveness appear to me to have given this fine combination the bent towards art.

In Mr Macdonald, the organ of Wonder is greatly larger than Ideality. This faculty, regulated by correct sentiment, and directed by a philosophical understanding, appears to inspire him with the love of the admirable and sublime. He sees in nature a spirit of beauty and harmony on which he dwells with rapture, and which he strives to imitate and embody in his works. Woman appears to him the loveliest of created beings, and he delights to contemplate her, such as he saw her in his vision—an essence of purity, tenderness, simplicity, and affection; and to invest these qualities in appropriate forms. Beside a beautiful, accomplished, and virtuous woman, he be-

comes ecstatic, his countenance expresses unbounded delight, and hours elapse as if they were minutes on the swiftest wing. Yet never was soul freer from all grossness than that of Mr Macdonald. It is a fundamental maxim with all artists,—and one which he delights to prove not only by reason but by fact,—that the human body, in its entire composition, is the temple of the soul; and that there are forms even in a leg or arm indicative of mental elegance, purity, intelligence, in short, of all the nobler qualities of the mind; which the trained artist or enlightened connoisseur recognises as readily as he does, the same qualities, when seen beaming in the eye, or playing on the features. I was sceptical regarding this element of the creed of artists, until I received ocular demonstration of the fact. Mr Macdonald placed in juxtaposition limbs of two ancient statues, one belonging to a female character, and expressive of purity, delicacy, refinement, and grace; and the other, forming a portion of a female statue, expressive of voluptuousness and sensual qualities. The difference was unspeakably great; and it was impossible to look upon the one without having Ideality, Form, Wonder, reflecting intellect, and the moral feelings, excited to admiration—while the other at once suggested ideas of mere animal grossness. Mr Macdonald realized this beautiful theory in his own works. His Supplicating Virgin is a personification of grace, loveliness and beauty, so perfectly pure, and, in form, attitude, and expression, so utterly removed from every approach to indelicacy, or any inferior sentiment, that Virtue herself may own her for a sister. The same praise may justly be bestowed on his male figures, Ajax, the fallen Trojan, and Achilles. They express the bold energy of the manly soul; the limbs, in form and action, correspond to the ancient warriors' fierce and powerful mind, but the expression is entirely mental; the most voluptuous imagination, if it read these figures aright, will feel refinement stealing upon its grossness, instead of fresh fuel being added to increase its flame. This is the triumph of intellect and sentiment, over the propensities; and strikingly illustrates the positive moral benefits that would attend the introduction of works of statuary into schools, for the purpose of rendering the young of both sexes, before passion shall have contaminated their minds, familiar with the human figure, as expressive of the qualities of the soul, and of teaching them to perceive in it the wisdom and intelligence of the Creator, instead of associating with its forms only the grossest conceptions, and regarding it as the most indelicate of created objects.—There is a close connexion between just proportion and perfect symmetry in the human figure, and bodily health and mental vigour. A small thorax and large abdomen, in a male figure

are abominations in the eyes of the sculptor; and to the enlightened physiologist these proportions reveal great feebleness in the sanguiferous system, with consequent liability to pulmonary disease, accompanied with a constitutional tendency to indulgence in the pleasures of the table. A small head and large thorax express to the sculptor the character of the gladiator; to the physiologist they indicate a feeble mind, with a powerful tendency to muscular action. Were the two sexes taught to trace the influence of physical forms and proportion on the constitution of the individual in whom they appear, in reference to health, dispositions, usefulness and enjoyment, and the effects of the transmission of them as qualities to offspring, statuary would not only enlarge the knowledge and refine the taste of society, but would contribute in an essential degree to the physical improvement of the race:—No phrenologist requires to be told that this is synonymous with increasing the perfection and enjoyment of the entire human being while an inhabitant of earth.

It is due to the memory of an excellent member of the Phrenological Society, whom it has lately lost, Mr William Ritchie, to say that he was an early friend and an enthusiastic admirer of Mr Macdonald. He fearlessly proclaimed his merits in the Scotsman, and anticipated his rising fame ere yet the public had pronounced an opinion on his powers. He loved Mr Macdonald as a brother, and paid homage to his gifted talents. It is melancholy to know that the day on which Mr Macdonald's most gratifying triumph was celebrated, the 5th of February, when the highest minds of the metropolis of his native country were assembled at the festive board, to crown his departure from Scotland with honour, and to send him forth to England with their most ardent wishes for his success, Mr Ritchie, whose heart would have leaped with joy at the scene, lay, all unconscious of the joy of his friend, a lifeless corpse.

I conclude with a few observations, chiefly selected from other publications, on

MR MACDONALD'S WORKS.

The first great work in which Mr Macdonald showed to the world the vastness of his powers, was the colossal group of Ajax bearing the rescued body of Patroclus, while in the act of inflicting a death-blow upon his only remaining Trojan adversary. This group is by many esteemed to be one of the proudest instances of rivalry which modern Europe can pitch against ancient Greece. The impress of genius is on all its parts; the spirit of inspiration speaks from it in a language of power which

it seems impossible not to feel and comprehend. The cold material of which the works are composed, is entirely lost sight of, and we see nothing but real and stupendous beings before us. In the figure of Ajax, the artist has combined the massive strength of Hercules, the dignity of Minerva, and the mobile lightness, the elasticity, and the harmony in proportion of the Apollo. Mr Macdonald's veneration for the ancients is almost idolatrous, but he has never slavishly imitated them. In every part of his works he has drawn original ideas from nature. Nothing in this group is unmeaning; the action is consentaneous; every part is full of life.

The countenance of Ajax is full of conscious power, blended with a shade of tender melancholy. His gigantic efforts in the fight have given intense action to his muscles. Nor is his fallen adversary unworthy of so mighty an antagonist. The figure of the Trojan is beautifully modelled and full of life; and, from the varied and strong action of the muscles, proceeding from the effort to recover himself from his recumbent position, conjoined with the mental feeling that exertion is all but hopeless, it has, in effect, much of the richness, with more than the power, of a painting. The figure of the collapsed and lifeless body of Patroclus has been beautifully and affectingly contrasted with the vast muscular action of the giant, fearlessly hewing his way back to the Grecian ships.

But, fine as this specimen of the heroic in art, and of Mr Macdonald's power, is, the best judges have declared it to be surpassed by his Thetis arming Achilles for battle. The hero is armed with a shield and two spears. He gazes stedfastly into the distance, as if his eyes beheld the waving crest of Hector; and he is impatient to hurry off to the field, while his goddess mother seeks to detain him a little longer with her. His figure, the conception and execution of which are equally admirable, may be considered as a type of the variety of the human figure, which combines the highest vigour with the most perfect grace and symmetry; and in that of his mother (which, if seen by itself, would perhaps be pronounced too heavy), we perceive at once that the massive character which the artist has given to her is perfectly consistent and appropriate, and that a more slender and delicate figure would have been out of harmony as a part of the group.

All these figures are of the heroic size; but, instinct as they are with beauty and power, the figure of the Female Suppliant, which was finished only a few months ago, is accounted by many to be the most exquisite of all Mr Macdonald's works. It is of the natural size; and in attitude, expression, and the minutest parts of its form, is filled with grace, and truth, and purity, breathing the very spirit of female loveliness, such as it is bodied

forth in poets' dreams. Of this figure, it has been remarked, that if it had been disinterred from the ruins of some ancient temple, volumes would have been written upon it, and rival prizes would have contended for its possession. "In that image," said our Eloquent Professor of Moral Philosophy on a recent occasion, "how exquisitely has the artist combined virgin innocence and loveliness with faith and piety towards the gods! What earnestness of speechless supplication in that imploring posture; face upturned religiously; knee bent in adoration; and hand outstretched as if with some votive offering to the shrine!"

In Mr. Macdonald's statues of the Girl Despatching the Carrier Pigeon, of the Boy and Bird, and of the Slinging Boy, beauty and grace and loveliness shine forth with delightful lustre. In these, as in his other works, we see that purity, simplicity, and adherence to nature, which so happily distinguish our countrymen from the more artificial and artificial artists of other countries.

In the more instructive department of bust-making, Mr. Macdonald holds, we believe, the highest rank in Scotland. His busts bear the impress of truth, character, and fidelity. In this field his phrenological knowledge has availed him much; and his works embody the fundamental character of the individuals represented as discovered by a penetrating and analytic intellect, and not shy transient emotion or phenomenal condition; great fidelity to nature being at the same time scrupulously preserved. His last effort was a bust of Sir Walter Scott, executed at Abbotford in January 1891.

THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

ARTICLE XI.

CASE OF SPECTRAL ILLUSIONS.

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

SIR,

I AM induced to offer the following case of slight tendency to the perception of spectral illusions, as it appears confirmatory of views already suggested by phrenologists in regard to the causes of such imaginary appearances.

Some months of last summer I spent in travelling over various parts of Britain, undergoing much bodily exertion, often extending to a considerable degree of fatigue, and accompanied by its usual concomitant, a disinclination to mental exertion. During this period I read little, which is contrary to my general habits; and, excepting the very slight degree necessary for observing scenery and collecting plants, I used almost no intellectual exertion. On returning to Edinburgh at the commencement of the past winter, such corporeal exercise was discontinued, seve-

real hours daily being devoted to practical dissection, and the remainder of the day to an examination and arrangement of various plants, insects, and other objects of natural history, collected, but not examined, during the exercise of summer. While engaged in the latter occupation, it was of course necessary to examine minutely the composition and structure of the different objects, many of which were so small as to require the use of glasses. In short, I had made a sudden change from corporeal without intellectual exercise, to a quite opposite, or intellectual without corporeal, pursuit, exercise, too, being almost limited to the perceptive organs, (as is evident from the madness of spending the day just mentioned.) Shortly after this conversion, I began to feel towards the evening of several successive days, much heat and pain of eyes, with a disagreeable sensation of tightness and pain between the eyebrows, to such an extent as generally to prevent sleep, until after the repeated application of cold by immersing my forehead in water. Notwithstanding the alleviation afforded by this, there still remained a tendency to start, awake suddenly, and apparently after having slept but a few minutes. On these occasions, I almost always appeared as if there were various strange objects in the room, in the air, and shapeless forms (if such an expression may be allowed,) hardly referrible to anything I could remember to have before seen. There were rarely more than two or three present once, and they were commonly resolved into forms as other real objects, after a minute or two of steady inspection. Occasionally, forms of a more distinct kind appeared; and once I had a lively representation of the white-robed figure to be seen in the Diorama of Holyrood Chapel, but it had ceased to be visible before it occurred to me where I had seen it before, or even that it was not entirely original. Just on first awaking, I never knew these appearances to be delusive, but a minute or two of time seemed to suffice for the gradual recalling and connecting of previous ideas with sufficient clearness to remind me that they *must* be so. Until I knew them to be illusions, the impression was rather disagreeable, and inclined to excite some feeling of apprehension. The knowledge of their ideal nature was almost always followed by their immediate disappearance or metamorphoses into chairs, curtains, moon-beams, or other realities. A few times this was not so immediate, and I was obliged once or twice to resort to the sense of touch in order to confirm the conclusions of reason. I believe that, at the moment of waking, there was a sensation as if I had received a blow on the forehead, but of this I was never sufficiently collected to be quite certain. These nocturnal startings from sleep, and illusive appearances, lasted about ten days; after which, having finished the examination and arrangement of my botanical and natural-historical preparations, and

commencing to attend the College lectures, a more varied excitement of the intellectual powers, and somewhat less sedentary habits, supervened, and the restless sleep and illusions gradually ceased, and were soon almost forgotten; but the cessation was so gradual that I should be quite unable to say when it was completed.

About two months afterwards, having received a parcel of botanical specimens containing many plants which I was particularly anxious to see, I devoted the evening of their arrival, until a late hour, in examining and comparing them with others previously in my possession, as well as with published descriptions. On retiring to bed I was restless and unable to sleep without having recourse to the cold-bath to my fore-head; and after at length falling into sleep, I again, and should fancy almost instantly, started awake, and saw the dark and deformed images perched on chairs round the room. However, they were soon resolved into articles of dress and other objects. Since this period I have had no return of these nocturnal appearances. Partly perhaps from being occupied with the same kind of study very little during the winter, partly also in consequence of adopting morning as the period for the little attention that has been given to it, but chiefly, perhaps, from not having had any strong interest excited by the presentation of a number of new and particularly desired objects at once.

The utility of noticing this case appears to me to rest chiefly on the circumstance, that in most other similar instances no obvious and direct external cause has been pointed out to account for the organic excitement; but although, in my first affection, I had merely traced it, in a general manner, to a change from the exercise of travelling to sedentary study, and the subsequent cessation of it to a gradual constitutional adaptation to the new or renewed habit; yet the second appearance of the figures being attended with a similar local pain, restlessness, and starting from sleep, supervening upon causes precisely analogous to those preceding the former, and that too so immediately, I am now inclined to believe that such appearances depended almost solely on a mere local excitement of the perceptive powers, and not on this as the concomitant of a general affection of the constitution. When local pain has been felt in other instances, it appears generally to have been traced along the superciliary ridge: with me it was confined to the site of Individuality, extending downwards rather than laterally.

I should be inclined to account for the effects induced in this manner, viz. that, in both cases, a number of new and greatly interesting objects being presented for attention to an Individuality and Form *not* of large dimensions, they were over-stimulated by the mere multiplicity of objects of interest, and that,

probably, had an equal number of hours been devoted to a few of them, or to an equal number of other objects exciting less of interest, the same results might not have followed; for, in such cases, at other periods, similar consequences have not resulted.

H. C. W.

ARTICLE XII.

AMERICAN ANNALS OF EDUCATION AND INSTRUCTION,
AND JOURNAL OF LITERARY INSTITUTIONS. Conducted
by WILLIAM C. WOODBRIDGE, &c. No. I. Boston, 1830.

NUMEROUS as are the evils of ignorance; manifold as are the proofs of their existence; unwearied as have been the efforts made to advance and enlighten every class of society; and great as has unquestionably been the progress made in later years, it is nevertheless a deplorable truth, that at this moment much of the misery, and many of the calamities which afflict the human family, are the direct offspring of the absurd and confused notions entertained in regard to our physical, moral, and intellectual constitution, and of the entire absence of every thing like established general principles, either to direct investigation, or to guide the application of the limited knowledge we already possess. On every side we hear of the benefits and necessity of education, and of new projects for facilitating its diffusion, and increasing its usefulness; but how rarely do we see even a single remark calling attention to the fundamental properties and wants of the being we seek to improve, or to the unalterable relations of fitness or unfitness subsisting between these and the modes of training proposed for our adoption, although it must be apparent to every one that their success or failure must be in exact proportion to the degree in which the one condition is in harmony with the other.

In the rearing of horses, dogs, and sheep, nay, even in the cultivation of the vegetables which they devour, we see every where the most persevering efforts made to discover the primary qualities which distinguish each race and species, and the most liberal premiums offered to those who shall throw any light upon the effects of particular kinds of food, soil or climate, in developing or improving these qualities, and we consider those only as fit to be entrusted with the charge of them who have made them their study and occupation; and yet, in the cultivation of man, the highest of all created beings, instead of following the same course, and adapting our means to his nature and consti-

tation, we content ourselves with rude and empirical conjecture, and coolly place him under the care of teachers whose promises would, no doubt, be fulfilled to half their extent, soon advances the case to a millennial state of existence, but whose real qualifications too often consist in their having proved unfit for every other profession, or having been reduced by misfortune to the necessity of working for subsistence, while very few choose the profession of a teacher from feeling a real liking for the vocation; and still fewer think any preliminary preparation requisite for the successful discharge of this most important duty.

This is indeed one of the many contradictions which characterize man in his social state. The savage thinks it necessary to his son's success and skill in the use of his weapons, that he be carefully trained to them from his infancy upwards; the physician considers it indispensable that he should make himself acquainted with the human body in its healthy and diseased states, and with the nature and effects of remedies, before he begins to exercise his profession; the lawyer, the engineer, the soldier, the sailor, and even the lowest of the operative mechanics, all hold it essential that they be instructed in the rudiments of their several arts, before being called on to carry them into practice. And, in like manner, the horsebreaker, the shepherd, the granger, and the gardener, would speedily find themselves ruined and impoverished, were they to enter upon their duties without having previously made themselves acquainted with the principles of their respective arts. And yet, when the being to be treated is one of the human species, the most complicated of all, in the variety and importance of his functions, previous knowledge and preparation are held virtually in contempt, and the teacher who resorts to his profession to save himself from starving, is confided in almost as much as he who adopts it from a natural preference, strengthened by long study.

Taking into account the fact that few of our teachers are instructed either in the nature of man or in the principles of teaching, we cease to wonder at the manifold opinions prevalent on the subject of education. The numerous publications daily issuing from the press testify abundantly to the existence of a strong sense of the necessity of education, and of the imperfections of the methods generally in use; one mode after another is recommended, adopted, praised, neglected and forgotten, to be succeeded by another equally praised and equally temporary in the period of its existence; and the most opposite opinions meet us at every turn, not only as to the best mode of communicating instruction, but as to the subjects which ought to be taught; and scarcely any two teachers advocate the same principles, or take the same view of the relative importance of different

branches of knowledge; and hence the evils of imperfect systems are invidiously charged against education itself, and a prejudice is raised in the minds of many, which no reason can subdue, but which is extremely influential in retarding the march of human improvement.

To obviate the evils arising from these causes, and to promote the diffusion of sound ideas on the subject of education among the people at large, are the objects which have called into existence the *Quarterly Journal of Education*, published by the Society for the Diffusion of Useful Knowledge, and also that whose title stands at the head of our present article. The latter is the continuation of a journal previously existing in America, but remodelled in its present form, and now supported by several able and intelligent writers, who profess to see in the liberal moral and intellectual education of the people, the only guarantee against the dangers which beset them, both as a moral and a political body. These journalists remark, and most justly, that in a country exercising the privileges of freedom, the question of education becomes one of paramount importance. Liberty, if it means any thing, means the power of acting according to one's own judgment and inclinations; from which it manifestly follows, that, if reason be blinded by ignorance, and the sense of duty be perverted by the prevalence of selfish passions, liberty must immediately fall a sacrifice, and the strong arm of the law be called in to operate as a check against selfish indulgence, and as a protection to our neighbours against the inroads of injustice. But, on the other hand, if reason be enlightened, and the moral sense be duly exercised (these being the main objects of education), freedom may safely be given to any extent, because then neither force nor checks will be required to keep the citizen in the path of duty. Having the law written in his heart, he will be a law unto himself. The American journalists say, that seeing the most corrupt principles of action unblushingly avowed, and a contempt of moral principle, conjoined with the most devoted selfishness of pursuit, prevalent in society, they cannot but fear for the stability of the fabric of liberty. They announce that a struggle must be maintained against ignorance, irreligion, and corruption, which demands the united efforts of all who venerate the laws of God, and desire the happiness of the race. They refer to the South American States, both as proofs and illustrations, as it is unquestionably the want of intelligence and morality, which has converted their nominally free governments into so many military despotisms. It was the same want among the body of the French people that caused the deplorable failure of their first revolution, and the terrible catalogue of crimes and miseries which came in its train; and which has hitherto rendered abortive the various attempts which

have been made to bring into operation constitutional governments in several of the states of Europe. Unless a people to whom the election of legislators and the management of affairs are confided, possess intelligence and principle requisite to direct them in discerning the best measures and selecting the best men, they must of necessity either be guided by their own prejudices and selfish passions, or be exposed to be carried blindly along by the counsels of a sage, or the seductions of a demagogue, as chance may happen to direct; and in such hands the wisest and best constitution may sink into a dead letter, or become the instrument of oppression and corruption.

In Britain there are powerful arguments for devoting the most earnest attention to the advancement of education and to the diffusion of useful knowledge. By education, however, is meant the proper training of man's physical, moral, and intellectual nature, and the communication of such knowledge as shall best fit him for the station he is destined to fill in society, and not merely the arts of reading, writing, and calculating, which, although only the means, are too generally regarded as the aim of all education. Even in our own enlightened country, the distinction between the two is often lost sight of, and thus many a youth, thought to be highly educated, enters upon the business of life without even a notion of the principles and relations by which his practical conduct ought to be guided, and he discovers, to his mortification, that, for all useful purposes, his education is only about to commence. The extent, indeed, to which confusion prevails on this subject is almost incredible.

In former articles we have laboured to shew that the laws of exercise form the grand principles on which all education ought to be conducted, and that, to insure success, we have only to apply them with proper discrimination to the particular functions which we wish to improve. Thus, if we wish to increase muscular strength, and procure greater readiness of muscular action, we must exercise the muscles regularly in executing the various combinations into which they are calculated to enter. If we wish to improve the tone of the stomach, we must duly regulate its supply of food, so as neither to oppress it with too much, nor weaken it by too little. If we wish to give strength to the voice and vigour to the chest, we must exercise both regularly and systematically in proportion to their original constitution. If we are desirous of cultivating the senses of taste or of hearing, we must exercise the respective organs on their own special objects, as we see practised by the tea and wine tasters, and by the savage in listening to the approach of his enemy. And, in like manner, if our intention be to improve the moral and intellectual powers of man, we must follow the same prin-

ciple, and exercise each directly on its own objects before we can hope for success.

In practice, however, the laws of exercise are altogether contemned, and we regulate the employments of children with as little regard to their dictates as if they had no existence. If we wish, for example, to fit the children of the labouring poor for the mode of life which they must speedily enter upon, the laws of exercise would suggest their being regularly trained to such an amount of daily muscular exertion, as should gradually develop their bodily powers, promote their general health, and prepare them for the labour which awaits them; and, as we wish them to be also moral and intelligent beings, and not merely animated machines, the same laws of exercise would dictate the necessity of, at the same time, devoting a portion of every day to the proper cultivation of their moral and intellectual powers, giving them sound views of human nature, and of their own mental and physical constitution, of the dependence of happiness on the right exercise of their highest faculties, and on the mutual interchange of good feeling, and familiarising their minds with their real position in the scale of society, and with the true means of improving their condition, by directing their ambition to become more healthy, more moral, more intelligent, more useful, and, as a necessary result, more happy and contented men.

Instead of this being done or attempted, we discover in society little else than the fruits of error or ignorance. At present we see the child transplanted at once, and without preparation, from the confinement and restraint of school to the workshop of the manufacturer. In school his mind has been cultivated, but his body neglected. The manufacturer, however, requires at once the full amount of bodily labour, and he sets him to work for twelve or fourteen hours a-day under a deteriorated atmosphere, where he speedily becomes farther weakened in body, and loses the little he had learnt at school, as now he has no time and no vitality to spare for reading. A double error is committed; the school unfits him for the labour, and the excess of labour unfits him for profiting by the lessons of the school. It is against the laws of Nature to suppose, that severe and unrewarded toil, bodily vigour, healthy contentment, and activity of mind, can coexist in the same individual; and yet how calmly do we see our legislators, ignorant or regardless of the laws appointed by God for the regulation of the human frame, meet and decide that fourteen hours a-day of actual confinement and labour is not too much*; and yet, were the sons

* A bill for limiting the labour of individuals below 18 years of age, in manufactories, to 11½ hours a-day, was introduced into Parliament last Session;

have been made. to bring into operation constitutional governments in several of the states of Europe. Unless a people to whom the election of legislators and the management of affairs are confided, possess intelligence and principle requisite to direct them in discerning the best measures and selecting the best men, they must of necessity either be guided by their own prejudices and selfish passions, or be exposed to be carried blindly along by the counsels of a sage, or the seductions of a demagogue, as chance may happen to direct; and in such hands the wisest and best constitution may sink into a dead letter, or become the instrument of oppression and corruption.

In Britain there are powerful arguments for devoting the most earnest attention to the advancement of education and to the diffusion of useful knowledge. By education, however, is meant the proper training of man's physical, moral, and intellectual nature, and the communication of such knowledge as shall best fit him for the station he is destined to fill in society, and not merely the arts of reading, writing, and calculating, which, although only the means, are too generally regarded as the aim of all education. Even in our own enlightened country, the distinction between the two is often lost sight of, and thus many a youth, thought to be highly educated, enters upon the business of life without even a notion of the principles and relations by which his practical conduct ought to be guided, and he discovers, to his mortification, that, for all useful purposes, his education is only about to commence. The extent, indeed, to which confusion prevails on this subject is almost incredible.

In former articles we have laboured to shew that the laws of exercise form the grand principles on which all education ought to be conducted, and that, to insure success, we have only to apply them with proper discrimination to the particular functions which we wish to improve. Thus, if we wish to increase muscular strength, and procure greater readiness of muscular action, we must exercise the muscles regularly in executing the various combinations into which they are calculated to enter. If we wish to improve the tone of the stomach, we must duly regulate its supply of food, so as neither to oppress it with too much, nor weaken it by too little. If we wish to give strength to the voice and vigour to the chest, we must exercise both regularly and systematically in proportion to their original constitution. If we are desirous of cultivating the senses of taste or of hearing, we must exercise the respective organs on their own special objects, as we see practised by the tea and wine tasters, and by the savage in listening to the approach of his enemy. And, in like manner, if our intention be to improve the moral and intellectual powers of man, we must follow the same prin-

ciple, and exercise each directly on its own objects before we can hope for success.

In practice, however, the laws of exercise are altogether contemned, and we regulate the employments of children with as little regard to their dictates as if they had no existence. If we wish, for example, to fit the children of the labouring poor for the mode of life which they must speedily enter upon, the laws of exercise would suggest their being regularly trained to such an amount of daily muscular exertion, as should gradually develop their bodily powers, promote their general health, and prepare them for the labour which awaits them; and, as we wish them to be also moral and intelligent beings, and not merely animated machines, the same laws of exercise would dictate the necessity of, at the same time, devoting a portion of every day to the proper cultivation of their moral and intellectual powers, giving them sound views of human nature, and of their own mental and physical constitution, of the dependence of happiness on the right exercise of their highest faculties, and on the mutual interchange of good feeling, and familiarising their minds with their real position in the scale of society, and with the true means of improving their condition, by directing their ambition to become more healthy, more moral, more intelligent, more useful, and, as a necessary result, more happy and contented men.

Instead of this being done or attempted, we discover in society little else than the fruits of error or ignorance. At present we see the child transplanted at once, and without preparation, from the confinement and restraint of school to the workshop of the manufacturer. In school his mind has been cultivated, but his body neglected. The manufacturer, however, requires at once the full amount of bodily labour, and he sets him to work for twelve or fourteen hours a-day under a deteriorated atmosphere, where he speedily becomes farther weakened in body, and loses the little he had learnt at school, as now he has no time and no vitality to spare for reading. A double error is committed; the school unfits him for the labour, and the excess of labour unfits him for profiting by the lessons of the school. It is against the laws of Nature to suppose, that severe and unrewarded toil, bodily vigour, healthy contentment, and activity of mind, can coexist in the same individual; and yet how calmly do we see our legislators, ignorant or regardless of the laws appointed by God for the regulation of the human frame, meet and decide that fourteen hours a-day of actual confinement and labour is not too much*; and yet, were the sons

* A bill for limiting the labour of individuals below 18 years of age, in manufactories, to 11½ hours a-day, was introduced into Parliament last Session;

and daughters of these same legislators doomed to the same lot, parental instinct, blinded as their minds are, would shrink from the cruelty of the infliction. It is no answer to say that the cases are different, and that the one class is accustomed to the task and the other is not; and that the boys and girls of the middle ranks are too delicate to stand the labour demanded from the other. The truth is, the children of operative cotton-spinners and manufacturers are almost as delicate as those of their masters, from the very circumstance of the toil and confinement speedily impairing the constitutions of the parents, and leaving them a prey to many of the diseases of more refined life; and the children themselves, when first taken from school and sent to the mill, are, in most instances, already suffering the penalty of their parents' loss.

If the lower orders are destined to live, or rather to starve, on soup, milk, porridge, and potatoes, in a state of destitution in the midst of plenty, to be the subjects of the most degrading and brutal passions, to be excluded from the moral sympathies of their more fortunate brethren, and to be governed only by animal force, then, by all means, train them to this as their lot, and prevent them aspiring to any thing of a more elevated nature. But if, on the other hand, they are destined by our common Creator to be the active labourers in carrying on the various operations of agriculture, manufactures and trade, to be the real basis of the social edifice, and to be the class on whose general intelligence, morality, and good conduct, the prosperity, tranquility, and happiness of the country are chiefly to depend, then, instead of being satisfied with teaching many of them, as children, the almost mechanical processes of reading, writing, and cyphering, with then handing them over, without previous preparation, to severe bodily labour in the fields, or in the manufactories, to the ruin of their farther improvement as rational creatures, and to the exhaustion of their physical energies; with depriving them of all time for harmless or rather cheerful and necessary relaxation; and with then wondering at occasional attempts to extricate themselves by force from such bondage, and lamenting their supposed depravity in not being contented with their lot, let us train them for their place in society, not only instruct them in reading and in writing, but provide them with books, on which they may exercise these acquired powers, and in which they may find knowledge and ideas useful to them in their various stations; and, above all, let us leave them intervals

but we are not certain if it was passed into a law. If Government really wish to civilize the people, the limit, under that age, should be six or eight hours; and vigorous means should be used to ensure the leisure hours being devoted to profitable education.

of rest from their labours, sufficient for the preservation of their bodily health, for the gratification and activity of their moral and rational nature, in social meetings and employment.

If from the class of operatives, we turn our attention to those who are intended for the more sedentary pursuits of commerce, law, literature, or divinity, we perceive an equally remarkable inconsistency between the modes of education and the objects sought to be attained by them, an inconsistency, which is explicable only by the total ignorance or disregard of the primitive qualities of human nature which we wish to cultivate. What is more common than to see the diligent student, ignorant that his mind works through the medium of an organized brain, consuming his health, disturbing his peace, and destroying his future usefulness, by excessive devotion to mental pursuits, and neglect of diet and bodily exercise. In the article on the Manual Labour Academy, of Pennsylvania, in the Journal of Education already referred to, we meet with some striking illustrations of our position.—"For twenty years and more the unnatural union of sedentary with studious habits, contracted by the monastic system, has been killing in the middle age. The Register of Education shows, in one year, one hundred and twenty-one deaths. Examine into the particular cases, and these will be found the undoubted effects of sedentary habits. Look at one name there. He had valuable gifts, perfected by two years' academic, four years' collegiate, and three years' theological studies. He preached, gave much promise, and then died of a stomach disease. He contracted it, whilst a student. He did not alternate bodily with mental labour, or he had lived and been a blessing to the church. When he entered on his studies, he was growing into full size and strength. He sat down till his muscles dwindled, his digestion became disordered, his chest contracted, his lungs congested, and his head liable to periodical pains. He sat four years in college, and three years in theological application. Look at him now. He has gained much useful knowledge, and has improved his talents; he has lost his health. The duties of his mind and heart were done, and faithfully so; but those of his body were left undone. Three hundred and seventy muscles, organs of motion, have been robbed of their appropriate action for nine or ten years, and now they have become, alike with the rest of his frame, the prey of near one hundred and fifty diseased and irritable nerves. And he soon dies of a disease, as common and fashionable of late as the studio-sedentary habit,—a disease caused by muscular inaction. Look at another case. Exposure, incident to the parson or missionary, has developed the disease in his chest, planted there when fitting himself for usefulness. He contracted a sedentary, while he was gaining a studious habit. That which he sows that shall he also reap.

The east winds give him colds; a pulpit effort causes hoarseness and cough, oppression and pain. He becomes alarmed and nervous. His views of usefulness begin to be limited. *He must now go by direction, and not so much to labour, where otherwise he would have been most wanted, as to nurse his broken constitution.* He soon adds to the number of mysterious providences—to the number of innocent victims, rather of cultivating the mind and heart at the unnecessary and sinful expense of his body—to the number of loud calls to *alternate mental and corporeal action daily, for the reciprocal activity and vigour of both mind and body.*

“Why is the manual labour system so abandoned? The child alternates his period of morning and afternoon confinement by his various cheerful amusements in the open air. But, when the animal frame is developed, and the redundancy of life and spirits is expended, how, let it be asked with solicitude, is the tendency to muscular action, which yet remains, satisfied, when the childlike exercises are put aside? In what manner is exhausted the health-preserving impulse to bodily activity? With what do students generally alternate their periods of study? Some allow no relaxation, except what eating, and sleep, and recitation, and casual conversation may afford. Too many alternate study with sensuality; while others, more methodical, take set walks, make reluctant, and fruitless resolutions to split and saw fuel wood, and, less willingly, when the novelty is over, to beat and move their muscles around a gymnasium. *These efforts at muscular exercise, too artificial to be lasting and suitable, declare too plainly to be misunderstood, that a defect exists in our present collegiate system,—a defect remediable only by natural and useful employment.*”

We need hardly say how much we rejoice to see an influential periodical devoted to the promotion of education, advocating such rational and useful views as the preceding, and that we wish its writers every success. In their philosophical principles they are in advance of the multitude, and they do wisely thus to take their stand on the laws of physiology. We wish, nevertheless, that they were as familiar with their application to the action of the brain as they seem to be with that to the system in general. They would then be able to inculcate with tenfold force and clearness the necessity of actively exercising every faculty, whether of thought, feeling, or motion, directly on its own objects, before expecting it to gain readiness or power; and at once to explode the mistake, that, in teaching to read and write, they necessarily invigorate the moral feelings. The laws of exercise demonstrate the absurdity of supposing that one part may be sufficiently exercised through the medium of another, and that, to produce high moral feeling, it is enough to exercise the intellect. The merest savage, following the footsteps of Nature,

would pity the philosopher who should seriously assure him, that, to cultivate acuteness of hearing or of vision, it was sufficient to think about them, and to keep his attention alive. The savage goes more directly and surely to work. If he wants physical strength, agility, and swiftness of foot, he sets himself to develop the muscular system of his child by ample muscular exercise, by constant repetition of the movements and acts he wishes him to perform, and by causing him to run, to leap, or to swim, and he rests in perfect security of accomplishing his purpose. Following the same rule when he seeks acuteness of hearing, he does not merely bid his child listen, but he sets about exercising his sense of hearing, by laying the child with his ear to the ground, and teaching him, by frequent repetition, to distinguish the qualities of sounds. If he wishes him to excel in hunting, in fishing, in lying in ambush, or in scenting the approach of an enemy, he expects to be successful only in proportion as he finds occasion to employ him in the practice of these pursuits. If he wishes to inculcate courage in battle, contempt of pain, endurance of fatigue, obedience to chiefs, or revenge to enemies, he chooses the sure road, and cultivates each of these qualities by calling it into direct action on its own objects. And we all know the success which the savage meets with in the education which he teaches.

With this experience before our eyes, let us, then, who pretend to superior wisdom and civilization, shew ourselves also consistent, and ready to receive instruction from whatever quarter it may come. As God has given us bones, and muscles, and blood-vessels, and nerves, for the purpose of being used, let us not despise the gift, but consent at once to turn them to account, and to reap health and vigour as the reward which He has associated with moderate labour. As He has given us lungs to breathe with, and blood to circulate, let us give up our own folly of shutting ourselves up in rooms in inactive study, and consent to inhale copiously and freely that wholesome atmosphere which His benevolence has spread around us. As He has given us appetites and organs of digestion, let us profit by His bounty, and earn their enjoyment by healthful exercise. As He has given us a moral and social nature, which is invigorated by activity, and impaired by solitude and restraint, let us cultivate good feeling, and act towards each other on principles of kindness, justice, forbearance, and mutual assistance. And as He has given us intellect, let us exercise it in seeking a knowledge of His works, and tracing out the relation in which we are placed towards Him, towards our fellow-men, and towards the various objects of the external world; and in perfect faith and sincerity let us rely upon His promise, that in so doing we shall have a rich reward,—a reward a thousand times more pure, more permanent, and more

delightful, than we can ever hope to experience in following out our own blind devices, regardless of His will and intentions towards us.

Before concluding these remarks, we may mention, that the institution referred to under the name of the Manual Labour Academy was first opened at Germantown, near Philadelphia, in May 1829, and that, at the date of the report, it contained 25 pupils, under the superintendence of a Principal and a Professor of Mathematics, who have the constant care of the inmates as of one large family. Its object is to combine intellectual cultivation with useful bodily labour, so as to secure good health as an indispensable basis for extensive moral and intellectual improvement. With this view, the premises occupied by the institution consist of forty-two and a half acres of good land, several out-houses, and a commodious dwelling on the main street. The farms in the rear of the dwelling, opening on a lane which communicates with the main road; there is on it stabling, a coach-house, granary, cart-shed, and farm-yard, and a culinary garden of one third of an acre.

"The youth have respectable talents, habitual industry, and are pleased with the mode of education. The health of this interesting family has been uninterrupted, except in a few cases diseased when admitted. *Every invalid remaining there has been restored to health.* They board with the Principal, their diet plain, and in as great variety as is consistent with economy and health, and as much as possible the product of the pupils' labours on the farm. Piety, learning, and honest industry, are here united. Surely such an enterprise cannot fail!

"The usual branches of study in classical schools are pursued with the addition of the study of the Bible. The hours of recreation are not hours of waste, and idleness, and immorality. They are employed in useful bodily labour; such as will exercise their skill, make them dexterous, establish their health and strength, enable each to defray his own expenses, and fit him for the vicissitudes of life; particularly so if they be destined for our new settlements as Christian missionaries."

"Thus far they have been employed in carpenter work, gardening, farming," &c., and with the best results. From this union of systematic bodily labour for three or four hours every day with the usual academic studies, many comforts have arisen. The pupils not only defray the expenses of their own education, and turn out better fitted for the business of life, but "their blood flows rich, and warm, and equable; and the east winds cannot penetrate them. Their thirst demands water, their hunger plain food, their limbs rejoice in muscular efforts, and their minds in truth. Sleep rests them, and their waking eyes behold the light of another cheerful, useful day," &c.

The religious enthusiast and the ardent student regard the time employed in such labour as mispent. But the report remarks very justly, that the great characters of the sacred writings followed useful occupations, and were not like the pale and feeble devotees of the present day. "The demureness, moroseness, gloom, and eccentricities of modern Christianity did not belong to them. These are the effects of a diseased body on the mind. The school of the prophets contained men of muscular exertion. We find them felling trees, preparing lime, carrying them to a distance, and erecting their own college edifices. The disciples were occupied, after the resurrection of their Master, in corporeal labour. Paul the pupil of Gamaliel, by birth and education high, is found at Corinth employed at manual labour. The great Exemplar himself is called the Carpenter's Son, and did not engage in his father's occupation. If so, what a sacred sanction there is for useful bodily employment, subordinate to the occupation of the mind!"

"When thought shall need no organ," continues the report, "and nearly four hundred organs of motion cease to constitute the principal portion of the human body, then may the student dispense with muscular exertion;" but till then, let him beware what he does, and look to the laws which the Creator has established for his guidance, and seek his happiness in yielding them obedience, and not in denying their existence.

ARTICLE XIII.

AN ANALYSIS OF THE ANALYSIS OF DR. COMBES'S "OBSERVATIONS ON MENTAL DERANGEMENT," which appeared in the London Medical Gazette for January 1831. By a Correspondent.*

PHRENOLOGISTS will not be persuaded that their science is thorough nonsense; their facts unsubstantial fictions; their analogies delusive paralogies; their instructions mere fantastical assumptions; their whole system, indeed, a medley of impudence, absurdity, and hallucination! Phrenologists will not believe this much, notwithstanding the "great in science and philosophy" have again and again demonstrated its absolute certainty. In these latter days, however, believe it they must; for the sentence is now said, and the doom pronounced, with the solemnity of a Celtic oracle, that *Phrenology, with all its abominations, is extinguished for evermore!*

* This article reached us by post from England; and it is written by a gentleman wholly unconnected with this Journal.

Some six weeks ago, or thereby, in No. 163 of the Medical Gazette, p. 500, came forth "an analysis or notice" of Dr Combe's Observations on Mental Derangement. The *article* is written with exemplary dignity and precision, both of thought and diction. Being the precept of a "master spirit" saturated with knowledge and equity, it must contribute vastly to the improvement of *rational science*. Can there be any objection, then, to an analysis of an analysis so remarkably instructive? None, surely: let us, therefore, consider the *article* after the order of its natural arrangement. It is divided into two nearly equal parts,—an Introduction, and "a short Analysis of the *Contents* of the Volume." The first of these parts occupies *seven*, the last *five* paragraphs, and each of them has the necessary proportion of *extracts*; making altogether a fine illustration of that god-like justice which ever distinguishes the sages who "love to be, and are *professed* utilitarians."

INTRODUCTION. *Paragraph I.*—This begins with an elegant view of the critical and *convivial* processes which have shown that Phrenology, being "a downright nuisance," ought not to be *entertained* with the seriousness due to rational science: it ends with the encouraging affirmation, that "the day of Phrenology is gone by, that its glory is departed;" and, with a touch of gentle charity, approves the virtue of "*letting* the departed rest in peace!" The *doctrines* advanced in this paragraph excel the empty *postulates* of the phrenologists, in being supported by "*evidences*," ample, admirable, and perfectly conclusive.

Par. II.—This makes a luminous and sprightly exposure of the *symptoms* "observed in the pamphlets and periodical *brochures*," which, not content with endeavouring to make good their pretensions, and to demonstrate their principles to be correct, boldly make postulates of them at once, and set off full speed to clear up all mysteries relating to both mind and matter." Now, since phrenologists do impudently pretend to unmystify such mysteries, the "rational science" should profit by the proofs of their presumption in issuing pamphlets and brochures which set off full speed to clear up mysteries of mind. To this exposure of the galloping pamphlets, is added a commendation of the *steady certainty* with which Dr Combe has *laid down* what "one of the sect, no doubt, would call the philosophy of insanity." This commendation is altogether commendable, certainly, inasmuch as it is both just and impartial. Reviewers ought to be instructed by this picturesque display of conscientiousness, in despising the prejudices with regard to indiscriminate censure.

Par. III.—This gives a pathetic monologue on "the philosophy of insanity;" and, at the same time, exemplifies most beautifully the concise diction of those philosophers who *are* "professed utilitarians." Here also, it is shown conclusively,

that Dr Combe, in having treated insanity *at large* upon philosophical principles, has engaged in "evidently a bold, though not a *novel* proceeding." With regard to the novelty of the thing, Dr Combe and his reviewer appear to be completely agreed; for, in his Introduction, p. xxix. the Doctor frankly acknowledges his obligations to others, and declares, that his "view is usefulness, and not novelty or originality:" it is quite pleasant thus to meet with a bold author, and a moderate critic concurring heartily in the same opinion. Last of all here, one of Dr Combe's questions and his reply are exhibited in the form of two citations, by way of illustrating that practical justice which critics and disputants sometimes inadvertently overlook.

Par. IV.—Here, in the kindest manner imaginable, the reviewer represents Dr Combe as putting his postulates prettily, and insinuating his assumptions plausibly; and, from *experience*, cautions readers against gratuitous assumptions, however pretty and plausible. Rational science might set off full speed, and very comfortably too, would readers only be cautioned against using gratuitous assumptions, and advocating it—the *rational science*—with plausible insinuations, and pretty postulates, like those employed by Dr Combe in advocating "the vain philosophy." Next comes a perspicuous detail of six self-evident "*dogmas*,"—*that* the *adepts* are grown desperately confident—*that* the *books*, tinged with phrenological notions, *assume* far more than has ever been proved, and *build up* airy fabrics of imposing showiness upon shifty foundations—*that* WE, namely all decent and sensible persons, do not attach so much importance to the doctrines of Phrenology, as to deem them worthy of serious confutation*;—*that* these doctrines sufficiently refute themselves, or require but little tact in the unprejudiced observer to detect their weakness and absurdity—*that* Time has done much, and will do more, towards the overthrow of "the vain philosophy,"—*that*, since it is not very mischievous, to *Time* WE willingly depute the business of its extinction—and *that* its mortality, WE foresee, will be shortly manifested like that of a "lighted candle-end:"—all which six *dogmas* appear to have been *proved* distinctly and to a demonstration; but, unfortunately for Science and Virtue, by some error of the press, the *proofs* are altogether omitted.

* Thomas Stone, *Esquire*, and John Wayte, *M. D.* have practically differed, in this opinion, from US: nevertheless, the *squire* and the *physician* are both very modest gentlemen, though somewhat too enthusiastic, perhaps, in support of Truth and Justice. These distinguished Philosophers thought Phrenology "worthy of serious confutation;" and, thanks to the thought, with their "*Evidences*" and "*Observations*" they have utterly discomfited the advocates of that intolerable heresy: May they live long and happy in the enjoyment of their blushing honours.

Par. V.—Here, by a judicious and impenetrable arrangement of facts, arguments, analogies and authority, the peculiar circumstances of “*this Creed*” are proved to “have been often and ably exposed, and the hedge-fighting warfare of its supporters unmasked,” by the *Great in Science and Philosophy*. Hence also Dr Combe is fairly detected in the trick of watching for opportunities, afforded by the hanging of some remarkable criminal, the death of some celebrated person, or in a case of monomania, “to procure the cast of a head, and discover such protuberances as answer his eager expectations.” Now, this practice of the Doctor’s is most shameful; in all respects most unjustifiable: his book abounds with instances of this felonious *watching*, and his reviewer benevolently engages to trouble OUR readers with a few of them—“*when WE may recur to it again, and are more phrenologically disposed.*” Here too, we have the first of “one or two particulars” in the conduct and mode of argument pursued by phrenologists. By this *one* particular, it is made plain beyond all question, that these bad men “avail themselves, *quocunque modo*, of the confessions and contradictions of their opponents;” and anybody not absolutely a dunce, may convict them of this crime, by turning to their books, which overflow with *evidences* of their surprising industry and ability in using this sort of sophistry—in abusing, rather, the manifold though “*generous concessions and contradictions* of their opponents.” Here, lastly, stands a “sample” of their depravity, in a sketch of the “*attack on Mr Charles Bell*, with which Dr Combe closes his introduction.” The Doctor must be “desperately confident” if he ventures to vindicate this *attack*; how, indeed, could a nameless smatterer like Dr Combe, presume to attack Mr Bell, who is undoubtedly the most unconceited, the most erudite, the most philosophical *professor* in England? Why, thus to attack the sage who made the *unimported* discovery—that *Physiology is no science*—was really “too bad.”

Par. VI.—This contains a meek “reply” to Dr Combe’s atrocious “*tirade* ;” and, by references, assists the reader to judge whether this vain Doctor be justifiable in imputing “*unworthy criticism*” to the immaculate Mr Bell. Whoever chooses to investigate the whole case impartially, will be convinced of the “Craniologer’s” flagrant delinquency in expressing such an imputation. What right had this conceited novice to make an attack on Mr Bell, who never attacked anybody—on Mr Bell, whose worthy criticisms are always pre-eminently characterized by gentleness and liberality? What right had Dr Combe to direct a tirade against a talented professor, who exercised his *ingenuity*, honestly and zealously, in resisting successive importations of the “continental system?” None whatever: this system, like the art of printing, was not *national* originally;

wherefore this system must necessarily be worthless and abominable.

Par. VII.—This is a remarkably genteel sort of thing, quite exquisite in its way: ordinary reviewers should study it as a “*sample*” of eloquence and veracity. “Another characteristic of the phrenological fraternity,” it says, “is the unscrupulous arrogation of ALL merit to themselves, and the unblushing ascription of ALL merit to the great northern lights of their hemisphere.” Two very fair and perfect quotations from Dr Combe’s book, *prove* this ascription and this arrogation quite satisfactorily; and phrenologists have this excuse only for their covetousness—that they were destined, it seems, to be a selfish fraternity. By an examination of dates and of words, in the original writings, OUR readers will readily ascertain the degree of Dr Combe’s unfairness in ascribing to Dr Spurzheim the conception of a doctrine in regard to the functions of the nerves; and, at the same time, ascribing to Mr Bell “the *high merit*” only “of having established this doctrine by the conclusive evidence of facts.”

ANALYSIS.—Here begins the chief and most gratifying part of the *article*: it is designedly the shortest, being just sufficient, and no more, to give a fair and full view of the *contents* of the volume.

Par. I.—This includes a *copy* of the reasons which induced Dr Combe to venture on his publication; and this *copy* itself constitutes decisive testimony of the reviewer’s generous disposition, and desire to practise fair play: it is indeed most worthy of all praise.

Par. II.—Altogether, this is an analytical dandy, inimitable for its laconism and tidiness: it is an *exact copy* of Dr Combe’s table of contents, without note or commentary, quite in the *utilitarian* way of making “a short *analysis* of the contents of a volume:” happy, happy, would it be for “the rational science,” were reviewers generally to take this paragraph as a “sample” of the rule for getting up an article “*gratifying to the reader*.”

Par. III.—In this, another but equally precious lesson in the process of *utilitarian* analysis, is generously communicated: it illustrates, practically, the manner in which—though “we have no hesitation in choosing an extract,” for instance, from Dr Combe’s chapter on the Prevention and Treatment of Insanity,—we can nevertheless decline making this choice, till the time when “we may recur to it again, and are more phrenologically disposed.” Subjoined to this lesson, comes a *passage* from Dr Combe’s chapter on the “*Symptoms* of Mental Derangement,” wherein, says the reviewer condescendingly, “the various attempts to lay down a *definition* of insanity IS very well exposed.” The *passage* is a long one, to be sure; but it proves the reviewer’s position unquestionably,—that gratuitous assump-

tions, however "well *exposed*," cannot possibly have any weight in opposition to "the mode of philosophizing recommended by *Bacon*."

Par. IV.—The honest practical utilitarian character shines brilliantly in this logical paragraph. It comprehends an exquisite "sample" of modesty and candour; and this *sample* is rendered still more exquisite by the addition of a very *long passage*, intended for the means of not *deceiving* the reader's expectation of being enabled to detect the causes why "WE really cannot *see* any thing very original in Dr Combe's practical chapter." This "*humoral* opacity," as a nosologist would say, must have Dr Combe's "evidently bold, though not novel, proceeding" for its determining cause: it could not, of course, result from any defect in the optic nerves or brain of US OURSELVES.

Par. V.—This admits that Dr Combe's book is "well written and well constructed;" but, on the other hand, it propounds, not indeed as a postulate or gratuitous assumption, but as an induction easily demonstrable,—that the book is based on fanciful and untenable principles; and, by consequence, only presents one more specimen of the fruits of a vain philosophy: "Now, like every one of the sect," Dr Combe will probably have the ingratitude to experience dissatisfaction with this fair judgment: its fairness, however, must be obvious to all men; and "it has one essential feature, which exalts it prodigiously in OUR estimation,"—it has emanated evidently from the mind of a dispassionate scholar and a gentleman. Finally, this affective paragraph exhibits the benevolence and justice of its author, in a character of the most refined and magnificent purity: and, in being the epilogue to a philosophical soliloquy, it must convince the "simple hearted" aspirer—that *some* knowledge is necessary to him who undertakes to teach wisdom.

Such, then, are the excellencies which distinguish the Analysis of Dr Combe's Observations on Mental Derangement; and such the critical sublimities which must encourage every "*professed* utilitarian" to hope of their amiable contriver, that he "may soon recur to it again" without *waiting* "to become more phrenologically disposed." Well would it be with "Rational Science," were the great in literature and philosophy often to imitate his unparagoned example, in rebuking "the phrenological fraternity;" and very well indeed would it be with rational science, were every journalist anxious always, in humble emulation of the Medical Gazeteer, to preserve his pages uncontaminated with mawkish and vulgar sycophancy—unparalyzed by the virulence of stupid and *Gothic* prejudices—undegraded with dullness, and ribaldry, and injustice.

ARTICLE XIV.

CATALOGUE, NUMERICAL AND DESCRIPTIVE, OF HEADS OF MEN AND ANIMALS, WHICH COMPOSED THE COLLECTION MADE BY THE LATE DR GALL. Transcribed by Mons. A. A. ROYER, of the Jardin des Plantes, from the manuscript drawn up by M. le Dr Dauncey, the pupil and friend of Dr Gall.

*(Continued from page 36 of the preceding Number *.)*

275. CHARLES DAUTUN; plaster cast.—Executed at Paris for the murder of his brother. (See No. 189.)

276. INSANE; skull.—The individual died in a mad-house. No other information.

277. SKULL.—Gall knew this woman. She was religious and charitable in a remarkable degree. These were the sentiments which ingrossed her. She manifested firmness and perseverance.

278. DELEGOUVE, the poet, (upper part of the skull), mentioned in No. 44. The thickness of the osseous case was a proof of atrophy of the brain, occasioned by the disease which rendered him insane. He was nearly in a state of fatuity for several months before his death. The organ of poetry is well developed in this head; the organs which constitute an ambitious character are largely developed.

279. BARONESS FRANCK; skull.—She was afflicted with melancholy, with a propensity to suicide. She appeared to enjoy her reason entire, and to take an interest in the affairs of life. But every month, at the menstrual period, she showed the strongest desire to destroy herself, and several times she attempted to do so. Gall, who was consulted, determined the friends of that young woman to place her in an asylum for the insane, that she might be properly taken care of. She was calm during all the time of her seclusion, and her relations believed her cured. She herself assured them that she had no longer the feelings she once experienced. But Gall, who saw her, judged differently, because of an unwonted veracity which appeared in her expression. Nevertheless, his advice was not followed. She returned to her family; and, on the next day after her return, having just conversed gaily with her husband, and several of her relations, she mounted rapidly to the highest floor in the house, and threw herself out of a window. The form of the head is that

* We find it necessary still to defer the conclusion of this Catalogue till our next Number.

of most individuals who are melancholy, with a propensity to suicide. The weight of the bone indicated that the brain had been long diseased. Gall pointed out the organ of Circumspection largely developed. He had no other information as to the habits of that lady.

280. SKULL; upper part presenting the alteration described in No. 222.

281. SKULL, upper part, of an old man; same observation as in No. 280.

282. PATHOLOGICAL PIECE.—The same observation.

283. PATHOLOGICAL PIECE.—Upper part of the skull of a soldier who had been struck on the head with the butt end of a musket. He had become insane in consequence of his wounds; but some months after he recovered his reason; still, however, retaining a very great susceptibility of delirium. A hearty meal, a few glasses of wine, or any other liquor, rendered him mad, and he required several days of low diet, an abundant use of refreshing drinks, and cold bathing applied to the head, to calm his agitation. He always experienced pains in the brain, which became insupportable if he sat up at night even for a few hours. The same symptoms appeared whenever he applied himself to any labour whatever, or entered into conversation on subjects which were familiar to him.

284. PATHOLOGICAL PIECE.—Another example of the alteration of nutrition, described Nos. 222, 280, 281, 282.

285. PATHOLOGICAL PIECE.—Skull, of which only the inferior part remains. The individual was scrofulous and slightly hydrocephalous. The form of that head differs from the ordinary type, indicating an irregular development of the brain. This subject was scarcely thirty years old, and yet the sutures are entirely effaced in the interior part of the skull. He was a sort of cretin, much given to drunkenness. He died in a mad-house, where his relations sent him in consequence of his conduct and the insufficiency of his reason. The disorder, although not permanent, returned from the slightest cause.

286. SKULL; of which there remains only the superior part, without any information regarding it.

287. SKULL; superior part.—The person died consumptive, after several months' illness. Gall showed this piece on account of the digital impressions, which are strongly marked. He remarked that he had observed that phenomenon in all cases where the respiration had been long difficult.

288. PATHOLOGICAL PIECE; upper part of a skull of a hydrocephalous subject, four months old.

289. PATHOLOGICAL PIECE.—Upper part of the skull of a scrofulous subject, weak in intellect, who became completely

imbecile in consequence of a fall from a height. He lived several years after that accident.

290. **PATHOLOGICAL PIECE.**—Upper part of the skull of an old man, showing the alteration described in No. 222, &c.

291. **SKULL;** of which there remains only the upper part. The individual committed suicide in a mad-house. He was fearful and suspicious, and believed himself sought after by the police, on account of his resemblance to one of his relations who had committed a crime, and who had fled the country. Nothing could reason him out of that dread.

292. **PATHOLOGICAL PIECE.**—Skull of a scrofulous subject, of an intellect much enfeebled. He said that he felt as if his head was pulled backwards by a weight; the least effort to lift a heavy body rendered him so giddy as almost to make him fall. He could not apply himself to any intellectual labour, without speedily experiencing vertigo, which came on with a sounding in the ears. He was hydrocephalous.

293. **SKULL,** upper part, of a person who died in a mad-house. She became insane at an advanced period of life, and soon lapsed into fatuity.

294. **PATHOLOGICAL PIECE.**—Skull; of which the upper part only remains. The individual had received a deep wound in the frontal bone; and, after his cure, he remained affected with a habitual cephalalgia, which became intense when the temperature suddenly changed from cold to heat, or *vice versa*. He suffered the same inconvenience from extremes of temperature, and likewise from any neglect of regimen. When he remained with his head uncovered, he was more quickly sensible of a change of temperature; and, when it was too much covered, that also was intolerable to him. This piece is remarkable on account of the thickening of the internal table by the brain; the bone is increased in density and thickness, as happens in all cases of disease of the brain.

295. **SKULL;** of which there remains only the upper part. The person was proud, and had the fixed idea that he was the general of an army, although he was no more than a subaltern officer. He was always commanding and giving orders, and exhibited well the attitude of Pride.

296. **LECOUFFE, the widow.**—Copy in plaster of the brain. See Nos. 20, and 117.

297. **SKULL;** superior part.—The individual was very obstinate, and became insane in consequence of an acute malady which followed the loss of a large fortune. In his delirium he repeated that he would rather be burnt than change his opinion, and above all he wished that justice might be done to him.

298. **PATHOLOGICAL PIECE.**—Upper part of the skull of an insane person, presenting several osseous excrescences. Gall

shewed this skull to prove the difference between protuberances occasioned pathologically, and the determined development of the convolutions of the brain.

299. **PATHOLOGICAL PIECE.**—Upper part of the skull of a scrophulous and slightly hydrocephalous subject.

300. **SKULL, upper part, of a man who died of an acute affection of the brain.**

301. **INSANE PERSON.**—Upper part of the skull. No information on this subject.

302. **PLASTER MOULD OF A BRAIN** covered with its membrane. This piece shows the disposal of the brain in the skull.

303. **ANTOINE LEGER ; skull.**—Leger, from his youth, appeared sombre and ferocious, and sought solitude habitually. He fled the society of women, and of boys of his own age. On the 20th of June 1823, he quitted his father's house, under pretext of inquiring for a place as a servant, taking with him only a sum of fifty francs, and the clothes on his back. Instead of returning home, he went to a wood several leagues off, and wandered about it for eight days to find a retreat. He found a grotto in the midst of rocks, and made it his abode: a little hay composed his bed. For the first fifteen days he lived upon the roots and wild fruits which he found in the wood. Having one day caught a rabbit, he killed it, and eat it raw. He was seized with a horrible desire to eat human flesh, and to quench his thirst with blood. On the 10th of August he saw a little girl, ran to her, passed a handkerchief round her body, threw her on his back, and rushed into the wood. Fatigued with his burden, and observing that the girl was without motion, he threw her on the grass, and perpetrated the horrible purpose he had conceived. He avowed the fact to the minutest particular, and produced proofs against himself. He stated that, having opened the body of his victim, and seeing the blood flow in abundance, he slaked with it his thirst; and, "hurried on by the malign influence that controlled me," said he, "I went the length of sucking the heart." At the examination it was remarked, that his countenance preserved an expression of calm, and even softness. His looks were dull, his eyes fixed, and his countenance immovable. He preserved the greatest apathy: only an air of satisfaction was evident in his face. During the reading of the act of accusation, Leger preserved a demeanour of which it is impossible to express the imperturbable tranquillity. A stupid smile, which seemed only to be a convulsive movement, dwelt upon his lips. His eyes, almost always cast down, were from time to time cast upon the clothes of his victim, and upon the stick and the knife which he employed in the commission of the crime. During the recital of the horrible act, the figure of Leger, far from manifesting the slightest emotion, seemed to ex-

pand itself the more. Leger heard his sentence of death with that calmness which never quitted him during the course of the debates; and he made no appeal against the sentence. His head was examined after death, in presence of several medical men, and there were observed several points where the brain adhered to the *pia mater*. There was no relation between the organization of Leger and the horrible crime of which he had been guilty;—but the circumstances of that crime; those which preceded it; the flight of Leger, without a motive, from his father's home; his taking up his abode in a cavern in a wood; the kind of life he led there for more than fifteen days; then his apathy during his trial; his stupid smile as he looked at the bloody clothes of his victim; the readiness of his confession, are and will always be, to those accustomed to observe madness, unequivocal proofs of a capital derangement of the functions of the brain. These opinions, founded on moral presumptions, assumed the character of certainty from the fact that adhesion existed between the brain and the *pia mater*; and was yet farther fortified by the alteration in the cranial bones in the superior posterior region,—an alteration which attests that the corresponding part of the viscus, was the seat of a chronic malady. The primitive organization of Leger had nothing defective in it; the form of his head was regular, and moreover approached more to that which announces a noble and exalted character, with, however, an intellect rather under mediocrity. Leger, then, was a madman, whose state of insanity was unequivocal, and who died a victim to the ignorance of his judges, who could see nothing in him but the most infamous criminal.

(To be concluded in next Number.)

ARTICLE XV.

COMPARATIVE PHRENOLOGY.

PHRENOLOGY continues to make sure though silent progress, and to find its way gradually into public estimation. Not only have the periodicals ceased to make it a butt for ridicule, but many of them speak of it in the most respectful terms; medical teachers have made it the foundation of their lectures on insanity, and it has been treated by various popular authors as a science founded on truth. It gives us pleasure to lay before our readers the following extract from the first Number of the *Farrier and Naturalist*, on the utility of Phrenology in relation to the lower animals.

“ The science of Phrenology has been many years before the public, through the indefatigable labours of Drs Gall and Spurzheim, but more particularly the latter ; and being now approved of and encouraged by men of the highest talents and abilities, and its utility in insanity, and more especially in education, having been duly appreciated, and fully proved in almost numberless instances, we therefore wish to call the attention of our readers to its very great importance and usefulness in judging of the *character, habits, and capacities* of different animals, but more particularly with a view to improvements in breeding—whether it be horses for the turf, hunting, or general use ; dogs for the chase, shooting, fighting, or for their sagacity.

“ We shall constantly find that a knowledge of Phrenology is of vast importance, as in all cases it will be found that an animal's *courage* particularly, as well as *sagacity, shyness, meekness, and general temper*, will depend entirely on the *brain* ; and as this organ is more or less developed, in particular parts, so will the character be found invariably to correspond to the outward indications of the skull.

“ It will also be found highly useful to the naturalists, in examining the skulls of animals, to ascertain whether they belong to the *carnivorous or herbivorous* classes ; in the former, the organ of *Destructiveness* will be found large, and in the latter, small ; so with regard to the shy and timid animal, will *Cautiousness* be found large and *Combateness* small, as in deer ; but on the contrary, when they are bold and fierce will the opposite be seen, as in the bull-dog.

“ There are many other propensities peculiar to different animals ; in the dog we find *Adhesiveness*, or attachment, and in the cat *Inhabitiveness* ; others again possess particular intellectual qualities. The horse is susceptible of *Pride*, and eminent for *Locality*, and the dog is noted for its general sagacity or intellect, in various degrees, all indicated by the brain.

“ As the science of Phrenology rests principally on facts, we have subjoined the following as being a very strong one, in support of the utility and the great necessity of this study in attaining a correct knowledge of the character, as well as the powers, of animals.

“ The skull of the celebrated race-horse Eclipse was shewn to Dr Spurzheim, and his phrenological observations requested, as to the powers and character of that animal. This was most readily complied with, and with that liberality and kindness which ever distinguish the man of science. The correctness with which these remarks were made must strike the unprejudiced and inquiring mind with more than ordinary force, when we state that our learned phrenological friend, of course no

sportsman, was quite unacquainted even with the name of this matchless horse.

"The leading characteristics, he observed, were a remarkably large brain, not only in proportion to the size of the animal, but to horses in general; strongly indicating great and high courage, unusual in sagacity, but deficient in meekness, or rather a vicious temper; and it was further remarked, that considerable difficulty must have been experienced in rendering such an animal subservient to his rider, but that when subdued, he could best be governed by gentle treatment, and would prove docile under proper authority. These peculiarities in his character and disposition will be immediately seen on referring to his history; and the remarkable correctness of the Doctor's observations may serve to shew that this science will hereafter prove eminently useful in judging of the living animal."

The following passage on the same subject, occurs at page 61. of Brown's Sketches of Horses:—

"There is a remarkable difference in the dispositions of the Asiatic and South American wild horses. Those of the former country can never be properly tamed, unless trained very young. If taken when adults, they frequently break out in fits of rage, in after life, exhibiting every mark of natural wildness; whereas those of America can be brought to perfect obedience, and even rendered somewhat docile, within a few weeks. It would be difficult to account for this opposition of temper, unless we can suppose that it is influenced by climate. If, however, another cause is to be sought for, may it not arise from an improvement in the cerebral development of those of the latter country, inherited from progenitors which have been domesticated for many centuries? This is an interesting inquiry, which might be determined by a comparison of their respective craniums. Mr James Wilson seems to favour this idea, for he says, in allusion to the pliable temper of the American horse, 'This would of itself be sufficient to prove that the one is the genuine original, and the other merely a rebel or emancipated tribe.'"

ARTICLE XVI.

PROCEEDINGS OF THE PHRENOLOGICAL SOCIETY.

February 3. 1831.—Mr Watson read an Inquiry into the Functions of Ideality.

February 17.—Mr W. A. F. Browne read two pathological cases, translated by him from Magendie, being "A Case of

Cerebellar Congestion," and a "Case of Injury of the portion of the anterior lobes of the Brain, resting on the orbital plate, followed by a loss of the memory of substantive nouns."—Mr George Combe read Observations on the life, works, talents, dispositions and cerebral development of Mr Laurence Macdonald, illustrated by a cast of the head, presented by Mr Macdonald at the Society's request.

March 8.—Mr Robert Cox read an account of some cases of imperfect perception of colours.

Mr James Simpson read Objections, by Antiprecocian, to Infant Schools, with Answers thereto by him.

Mr Combe gave notice, that he would give a course of practical instruction, gratis, to such members of the Society as were desirous to receive it, at eight o'clock in the morning, on Mondays, from 16th May to 4th July.

March 17.—Mr Simpson read a notice of *Nouveaux Elémens d'Hygiène, par Charles Londe, D. M. P. &c. &c.* Paris 1827*; and also a notice of the Proceedings of the Glasgow Phrenological Society. Mr Robert Cox read cases by Mr James Deville, of Change of Form of Head, with corresponding Change of Character.

March 31.—A notice was read of a case, communicated by Dr Favell of Sheffield, of Disorganization of the Anterior Lobes of the Brain. Mr Combe read Observations by him on the Influence of the Digestive, Sanguiferous, and Nervous Systems on the Mental Manifestations. Mr James Tod presented a Cast of a Skull of a New Hollander, brought home by John Drummond, Esq. surgeon, Royal Navy.

April 14.—Mr Combe read Reflections on Parliamentary Reform in relation to the moral and intellectual improvement of the people. A second Report of the Committee for improving the accommodation for the Museum was read, stating, that when arrangements shall be completed, the collection will be accessible to the members of the Society every lawful day, and that it will be methodically arranged, and rendered available for study, by an extensive descriptive catalogue, which is now in preparation. The Report farther stated, that it is generally understood that the Society's collection of National Crania is the most extensive in Europe, and that, in other departments, it presents a rich variety of specimens for study; and it solicited additions to it from the friends of the science.

April 28.—Mr Watson read a case of incipient Spectral Illusions; also observations by him on the varieties of Memory. The Society then adjourned its meetings for this session.

* Great part of this work is founded on Phrenology.

ARTICLE XVII.

TRANSACTIONS OF THE GLASGOW PHRENOLOGICAL
SOCIETY.

OFFICE-BEARERS for the year 1880-81.—*President*, Mr William Bennet, Editor of the Free Press. *First Vice-President*, Dr Robert Hunter, Professor of Anatomy in the Andersonian University. *Second Vice-President*, Dr William Weir, Surgeon to the Royal Infirmary, &c. Mr J. Clark, *Secretary*.

March 1. 1880.—An introductory essay was read by Dr Weir, in which he took a historical review of Phrenology—described the difference between Craniology and Phrenology strictly so called—shewed the superiority of that science over every hypothesis of mind, in accounting for a greater number and variety of mental phenomena—and concluded with answering the popular objections of materiality and necessity.

March 15.—The subject of conversation this evening * was, What development of organs should exempt a man from legal punishment?

March 29.—Dr Weir, in continuation of his introductory essay, stated and illustrated the laws of the reciprocal influence of the faculties.

April 28.—Dr Græme produced the head of a New Zealander. The development was compared with the chief features of the national character.

May 12.—Mr Bennet read an essay on the advantages to be derived from a knowledge of Phrenology, not only to one department of life, but to society in general. He pointed out many of the leading fallacies by which mankind are swayed, and the progress of knowledge retarded, and referred to Phrenology as the science destined to effect a thorough revolution in these particulars, and, by giving man a better knowledge of himself, and of his relative situation in the scale of existence, to render him consistent in his own actions, and charitable in his opinion of others. In particular, the essayist dwelt at considerable length on the benefits to be derived from the application of Phrenology to the business of education; and to illustrate his views, advanced a variety of details, which afterwards led to an interesting discussion.

May 26.—The conversation this evening was on the best method of education.

June 9.—Dr Alexander read an essay on the best means of

* Essays and conversations form the alternate business of the meetings of this Society.

improving the moral and intellectual character of man. He shewed in a few words the inefficiency of education to produce great mental changes. Important improvements, he contended, were only to be made by proper marriages. The qualities of mind, he said, were transmissible from one generation to another—a position which he proved from the analogy of the skin, the voice, the countenance, and particular malformations; consumption, gout, and scrofulous diseases; and more directly, by shewing that the child received from its parents their health and temperament, and the size and configuration of the brain. Those marriages, therefore, would bring posterity as near moral and intellectual perfection as man could attain, which were formed with due regard to the constitution of the parties, their health and temperament, and the absolute and relative size of the cerebral organs.

June 23.—The phrenological standard of virtue examined.

July 7.—Mr Cassils read an essay on the compound nature of man.

August 4.—Dr Græme read an essay on the application of Phrenology to the Practice of Medicine, in which he shewed, with much beauty and force, its immense importance to the treatment of mania.

August 7.—The Society spent this evening in the examination of the busts.

September 1.—Mr R. Grahame read an essay on the evidence of a thinking principle distinct from, but not independent of, the brain. The argument was drawn chiefly from the natural proofs of a future state. The essay led to considerable discussion on Dr Gall's opinion of the perceptive power of the feelings.

September 15.—The greater part of this evening was spent in examining the busts. Some passages were also read, and commented on, from Spurzheim and Combe, shewing the nature and extent of the connexion between the feelings and intellect.

September 29.—Mr Harvie read an essay on the faculty of Firmness, describing its nature, and shewing and illustrating its utility, and the different modifications it assumed, in particular combinations.

October 18.—The mode in which the feelings are excited by external objects, was the subject of to-night's discussion.

October 25.—Mr Lyle read an Essay on the connection of Phrenology with Pathology. He adverted to the causes which had retarded medical science, and in particular the unfounded opinion, that the seat of the passions was the abdominal viscera, which he said had concealed from the profession the origin and nature of hysteria, menstrual derangement, and hypochondriasis. From an analysis of the symptoms, causes, time of its appear-

ance, and mode of treating hysteria, he contended that it was a disease of the cerebellum.

November 8.—Dr Alexander made a number of phrenological observations on Burns, illustrating his opinions with the incidents of his life, and numerous passages from his writings.

November 22.—An Essay was read by Mr Clark, on the object of Causality. The essay began with the natural history of the faculty, in which it appeared that the organ was in a uniform ratio to the talent for metaphysics and similar pursuits. It was then shewn, that however apparently dissimilar might be the subjects on which a faculty employed itself, they were bound together by a common property or relation which formed its object; and, by analysis of morals, metaphysics, politics, and reasoning in general, they were shewn to be similar only in being developments of cause and effect, a relation which must therefore be the object of Causality. The second part of the essay was an endeavour to prove that cause and effect in the moral as well as the physical world was merely a succession of events, accompanied with a belief, that the first in the sequence would invariably be followed by the second.

December 6.—Mr Lyle gave a short analysis of the mind of Edmund Burke, from a view of his bust. A discussion followed on the fidelity of the description.

December 20.—Mr Bell read an essay on the application of Phrenology to legislation.

January 3, 1831.—Two lectures having been delivered by Dr Hunter at the quarterly *soirées* of the Andersonian University, where Phrenology was most ably supported by the Professor, and keenly disputed by Dr Hannay and some other medical gentlemen, the society employed this evening in examining the objections. The arguments were these: That the brain is a uniform mass, and that different functions of Benevolence and Destructiveness, cannot be performed by bodies similar in their chemical and physical properties; that the effects of injuries were different though inflicted on the same part of the brain; that the cat has the destructive propensity without the middle lobe, and the sheep has the middle lobe without the propensity; that some animals, with brains as similar as two drops of water, had notwithstanding entirely different minds, as the hare and the rabbit, the wolf, the fox, and the dog. In answer to the first, it was said, that the objection was inconsistent with the analogy of other organs of the body, and that it was contradictory to maintain the objection, and conceive that the emotions of pity and hatred were functions of ONE organ—the brain. To the second it was said, that Phrenology could explain the different effects of apparently similar injuries, and no other theory could, and it was shewn how. The third was denied in fact. The fourth

was denied, for though the brains might be similar in the number and situation of the convolutions, they differed in size and figure, and besides it involved the same contradiction as the first objection, inasmuch as, if the brain was one organ, similar brains should belong to similar minds.

January 17.—Mr Gillespie read an essay on the original differences of men, proving his position by the difference of external circumstances, and hence a difference of bodies, and thence a difference of minds, if the body affects the mind, and from the differences of children of the sexes, and of nations.

February 3.—First General Meeting of the Society. A state of the funds laid before it. A creed proposed to be signed in future by new members, but the motion withdrawn, and the following law made, that no new member be hereafter admitted, unless attested by the gentleman proposing him, to believe in the first principles of Phrenology. The following gentlemen elected Office-Bearers for the next year. Dr Weir, *President*; Dr Hunter, *First Vice-President*; Mr William Cassills, *second do.*; Mr J. Clark, *Secretary*.

NOTICES.

Dr SPURZHEIM has given courses of lectures in England, at Bath and Derby. He is now lecturing in Dublin, in compliance with the request of the Phrenological Society there. The Dublin Evening Post, after stating that this is probably the last occasion on which he will lecture in that city, concludes in the following terms:—"This science, though so long a subject of ridicule and contumely, is now established on a basis that stands as little chance of being shaken, as the foundations of the other departments of natural philosophy; and among them, competent judges assert there is not one of more value to society than phrenology. Even its opponents admit, that, if they could be satisfied of its truth, they would not deny its paramount importance. The approaching lectures of Dr S. will probably remove all remaining scepticism, in this city, upon this point."—*Dublin Evening Post*, 19th April 1831. Dr SPURZHEIM is about to settle in Paris.

PARIS.—A numerous Phrenological Society has been instituted here.

SCOTLAND.—The first phrenological paper read before any Society in Scotland was, we believe, an essay read by Thomas Forster, Esq., F. L. S. London, to the Wernerian Natural History Society of this city, on the 15th of April 1816. It is entitled, in the records of that Society, "Observations on the possibility of distinguishing the character of animals by the form of their crania, made with a view to establish a system of zoology founded on the forms of the brain."

LONDON.—Mr J. L. Levison has given courses of lectures at the Mechanics' and other Institutions, which have been very numerously attended. He has lectured also in several other towns in the south of England. We have received two cases from him, which shall appear in our next Number. We understand that various Phrenological Societies exist in the south of England, and beg to be favoured by any of the members with accounts of their proceedings, and with any other phrenological intelligence.

Mr DEWHURST's Guide to Human and Comparative Phrenology will be noticed in our next Number. It arrived too late for this publication.

THE
PHRENOLOGICAL JOURNAL.

No. XXIX.

ARTICLE I.

LETTER TO THE CONDUCTORS OF THE PERIODICAL PRESS,
ON THE UTILITY OF PHRENOLOGY AS A SYSTEM OF
MORAL IMPROVEMENT.

GENTLEMEN,

THE press has risen into such high power and estimation, that it has been named a fourth estate in the commonwealth. Catholic Emancipation and Parliamentary Reform are viewed as its most splendid and useful triumphs; and public opinion has consecrated it as the guardian of freedom and virtue in all future struggles which may occur between an enlightened people and their oppressors. But it appears to me that the press yet lacketh much knowledge, to become the instrument of all the good which is morally within its power. In the two great struggles alluded to, in addition to reason and morality, which are the only powers inherent in a good cause, it was aided by the influence of the King and Ministry; and, constituted as society and the press at present are, it appears to me that, without these auxiliaries, the victory would not have been gained for half a century to come. The mass of the inhabitants of Britain, rich and poor, are essentially ignorant of every thing like a philosophy of man. They have no precise knowledge of the elementary qualities of human nature, and still less of their mutual relations. Some sects in religion, from having too little faith in human virtue, or in the power of reason and morality, successfully to cope with fraud, violence and error, dwell too habi-

tually on the opposite doctrine, and lead the young to distrust the capabilities of man's intellectual, moral and religious powers, to attain almost any good by their natural efforts. Philosophers differ widely in their views of human nature, and you, the conductors of the press, know well that no exposition of moral and intellectual science exists which any considerable number of you embrace, as containing the basis of your opinions in morals, politics and religion. You write for the public as for men acquainted with no system of human nature, but judging and acting in each case as it emerges, not upon fixed principle, but from instinctive impulses, modified by contingent events. An appeal to pecuniary interest is the most effective ; one to vanity, ambition, and the love of power, or the hatred of it when exercised by others, is the next in degree available for exciting to action ; while you are aware that the clearest demonstration of any line of conduct being dictated by religion, and required by morality, does not always insure its being adopted. In endeavouring to guide the public towards any object not already popular, you feel yourselves constantly under the necessity of establishing first principles ; and you have extremely few data established in the public mind on which you may found conclusions on moral and political subjects. The press hovers in the airy regions of feeling and imagination, rather than dwells in the fixed abodes of reason and established principles. In the case of Catholic Emancipation and Parliamentary Reform you enjoyed the countenance of his Majesty's government, which, in addition to the virtuous and disinterested, who supported these measures from the love of right, directed towards you the favour, also, of the selfish, the ambitious, and those expectant of future benefits, and rendered you triumphant. Proprietors of burghs in England and freeholds in Scotland, however, who could hope for nothing from the whigs, received few moral impressions from the press, and many remained adverse to reform. Do not, then, deceive yourselves ; you will exercise but a secondary influence when you are left henceforth to your own resources. Men entertaining different views, and animated by different passions, will come forward under the new order of affairs, and each will advocate the opinions, or maintain the particular interest, which he considers most beneficial to himself or to the nation ; and until the people and the conductors of the press shall possess a true philosophy of man, and have common and consistent views of the proper objects of life to rational beings, and of the natural means of attaining these ends, Parliamentary Reform or any other public measure will accomplish comparatively little good. If the people and the conductors of the press possessed any sound elementary views of human nature and its relations, they would have the advantage of a

touchstone by which to try every candidate for political power. If their philosophy gave them faith in human virtue, exhibited to them the means by which it could be rendered triumphant; and unfolded the dangers to which it was exposed, they might exert a giant power in promoting the improvement of the race. They might detect and defeat every enemy, and encourage and support every friend to human happiness. Combination would become practicable for virtuous ends; and in place of seeing prejudice played off against prejudice, pernicious error blazoned forth by authority, and drivelling superstition consecrated by imposing names, all under pretence of preventing the overthrow of social order, we should discover an enlightened press guiding an educated and a moral people to institutions calculated to repress misery and crime, and cherish happiness and virtue.

If the people were trained in a system of philosophy which demonstrated that although man is framed to be industrious, yet that perceptive faculties are given to him for observing nature; reflective faculties for tracing the relations of natural objects; moral affections as fountains of enjoyment; and that this world is arranged on the principle of his moral and intellectual faculties assuming the ascendancy, modelling his institutions into harmony with their own dictates and desires, and guiding his actions,—it is obvious, that the principles of reason, religion and morality, would acquire a power which they have never yet exhibited, and never can exhibit, while man shall continue ignorant of himself, and of the relations established by Providence between himself and the other objects of creation. Now, Phrenology is the philosophy which is here described. Some of you have studied and comprehended its principles, advocated its truth, and recognised its power as the practical science of human nature. To you the gratitude of your countrymen will hereafter be rendered, for the benefits which you have conferred on them, by directing their attention to truths of such momentous import; and, in the mean time, you reap a rich reward in the clearness of intellectual perception, and the stability of moral hope, in regard to the destinies of man in this world, which it has afforded you. I regret to observe, however, that by far the greater number of you, the conductors of the press, have covered Phrenology with ridicule, and done all that lay in your power to render it a by-word, and an object of contempt. Many of you and of your adherents cannot even yet hear its name mentioned without angry emotions. Some of you have a strong suspicion, if not a positive knowledge, that it is true and important, and yet entertain such fear of your readers, that you do not venture to tell them what you think; or if you permit your conviction to transpire, you preface it with certain expres-

sions of jocularly or contempt, as if it were necessary to apologise for so great a departure from conventional modes of thinking, as to speak favourably of a great discovery before it had received the sanction of public approbation. To the class, who are unacquainted with Phrenology, I address the present observations.

In surveying the fabric of society, you must feel the want of a philosophy of human nature to enable you to comprehend its objects, and the relations of its parts. The most different views of these are entertained by different sects in religion, politics and philosophy, and each labours to advance his particular creed, blind to the effects of this universal conflict of doctrine on national prosperity. If we ask on what principles are government and the great occupations and interests of society conducted in Britain, it would puzzle ordinary philosophers to answer. We profess Christianity in its purest form; but if you contemplate the practical precepts of this religion, and compare the private lives and the public actions of the people with this standard, nothing will appear more ludicrously dissimilar. Was the conquest of India, or the war with France, undertaken on Christian principles? Was the sanguinary penal code of England instituted on these principles? Are labourers doomed to incessant toil, and left in profound ignorance, in order to improve their spiritual condition as creatures destined for immortality? In short, if any thing be clear, it is this,—that Christianity is not yet the animating principle of the world. What, then, is the principle on which society founds its institutions, and conducts its affairs? It is on that of a regulated selfishness. Every individual is left at liberty to pursue the objects that strike his individual fancy as leading to good, checked only by the condition that he shall not *directly* injure his neighbour. This constitution of society would produce admirable effects, if the people were enlightened by a philosophy which demonstrated the supremacy of the moral and intellectual powers of man, and the fact that the elements of human and external nature are framed by the Creator so as to admit of the occupations of life and the institutions of society being arranged in accordance with their dictates;—in other words, that the morality of Christianity is capable of being rendered practical by the development and proper direction of the existing elements of nature. Individuals would then be animated by a uniformity of desire to attain good, and an unanimity concerning the means of realizing it, which cannot exist while every one cherishes views of nature and its capabilities peculiar to himself or to his sect. This division of sentiment has been the bane of society in time past. One body of men acts as if amassing wealth were the grand object of human existence; another as if

the enjoyment of pleasure were the chief end of man ; a third proclaims that life is a pilgrimage, and that salvation ought to be the exclusive object of an immortal creature's consideration. On the great topic of the capabilities of man for improvement, and on the means of improving him, a wide diversity of opinion prevails, and no principles are recognised, from which an approach to greater unanimity may be effected ; and how can the press exercise a moral sway over an empire thus discordant ? The want of a philosophy of mind is strikingly discernible in religion ; for the wildest fanaticism, and the most unmeasured scepticism, flourish side by side ; and of all arguments adduced by the advocates of these contending opinions, those said to be founded on human nature are the least satisfactory to, and successful with, the opposite party ; although the reverse ought to be the case, if the philosophy of man existed as a practical science.

Phrenology, I again say, is the philosophy required ; and it is your interest, for the increase of your own power and usefulness, and your duty, as the moral leaders of the people, to study it, to cherish it, and widely diffuse its doctrines. I am, &c.

THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

ARTICLE II.

ON HUMAN CAPABILITY OF IMPROVEMENT.

MAN existing in a savage state without arts and industry, can scarcely be recognised as a rational being ; he manifests only instincts ; and instead of subduing external nature to his will, he picks up from its surface, as the brutes do, whatever enjoyments it spontaneously yields, and submits in sullen patience to its adverse influences, till they pass away. In civilized countries, on the other hand, he presents the most unequivocal evidence of the greatness of his rational faculties, by the sway which he exerts over physical nature ; but even in these regions, when we examine closely into the condition of individuals, we discover that although the intellectual powers have achieved admirable conquests over matter, there is a deplorable deficiency of moral enjoyment ; that although man has displayed the magnificence of his nature in triumphing over earth and sea and air and fire, and rendering them ministers to his will, he has not succeeded in infusing order and beauty into his moral condition ; that his heart is often sick with anguish, while his eyes look on a lovely world as his own. Some sects regard this as the necessary result of man's imperfect nature, and disbelieve

in the possibility of his ever advancing by the use of reason so far as to do in the moral, what he has accomplished in the physical, world; call forth order, beauty, and enjoyment, where pain and sorrow at present reign. Other sects not only regard such an advance as attainable, but teach that the Creator has formed man as a progressive and improvable being, with the direct object of his arranging his institutions and conduct in conformity to the Divine law, and thereby attaining to real enjoyment. They maintain, that, without being animated by this conviction in our daily conduct, and without resorting to the study of human and external nature, under the reliance on the divine goodness which it produces, we cannot be said to live *with* God in the world.

Thus, two great parties may be said to divide the religious world. The one, with which we have a great sympathy, believes the physical, moral, and intellectual constitution of this world to be greatly disordered; many and bitter were the proofs of this truth afforded by the pains and sorrows attending our early life and education; and we are still far from imagining that this world is a perfect institution. The burning deserts of Africa, the frozen regions of the poles, the noxious swamps, and the stony wastes every where abounding, proclaim that physical nature is not perfect; while the mental blindness, the heart's sickness, and the body's anguish, prove that human nature requires great amendment. The other party, however, contend, that the opinion generally entertained of the inherent defects and disorders of creation is exaggerated; and that there is a far greater provision made for human virtue and happiness in the functions and capabilities of nature than is generally understood or believed; and that it is denying the Divine wisdom and goodness, to say that this world is essentially disordered in its constitution; that it is not arranged so as to favour virtue, but the reverse; that it is a world essentially wicked, against the seductions of which the pious require to maintain a constant struggle. They say, that, if we entertain these views as our theory of human nature, and act consistently, we shall be led to look with little interest on human science, and to listen with much incredulity to schemes for improving the dispositions, capabilities, and condition of the race, by teaching them the laws of the natural world, and inducing them to obey them. No system of political economy, of law or of education, having for its object the promotion of human happiness and virtue, by a right ordering of the elements of nature, appears to be practical, according to the fundamental doctrine, that nature, physical, moral, and intellectual, is depraved and out of joint. Although *extra-natural* means of rectifying the disorder be admitted, these means do not belong to the department of philosophy, and do not fall within the sphere of reason; whereas every

scheme having the permanent improvement of man for its object, by increasing his health, enlarging his knowledge, strengthening his moral affections, amending his social institutions, and diminishing his passions, seems to require that the elements of his nature should in themselves be good ; that they should be wisely adapted to each other and the external world ; and that happiness and virtue should be an attainable result of their due application and arrangement.

These unfavourable views of human nature are perhaps entertained by some of our readers ; while by many others they will be regarded as altogether erroneous ; and this difference of opinion is itself of much importance. A practical as well as a theoretical conflict is permanently proceeding in society, founded on the two sets of opinions now adverted to. The belief in the right constitution of the world is so far instinctive, that individuals of all ranks, when they lay aside their sectarian peculiarities, combine cordially in promoting the study of science, the investigation of nature, the diffusion of knowledge, and the amelioration of social institutions, on natural principles ; in full reliance that the great elements of the material and moral world are really constituted with the design of favouring happiness and virtue. On the other hand, we are surrounded by religious sects essentially founded on the opposite principle, of nature being in disorder, and of the only means of rectification being such as are afforded by an influence not belonging to this world's constitution, not cognizable by philosophy, and not falling within the sphere of reason. These sects, when they have acted in their proper character, have laboured for centuries to improve mankind by their own peculiar means ; we do not mean to say whether successfully or unsuccessfully, but simply to call attention to the fact, that, in their efforts, the exposition of the natural constitution of the human mind, of the external world, of their relations and capabilities, has formed a very subordinate part. They have greatly omitted to cultivate the natural capabilities of the beings whom they have sought to improve, and nevertheless expected to accomplish this end without using the means. They have resembled the pious agriculturists of Scotland, of the olden time, who prayed for dry weather, when the natural humidity of the atmosphere was damaging their crops with rain, but omitted to drain their fields. Their prayers were not successful, because they did not use the means which Providence had placed within their own power for protecting their crops. Their posterity have applied their skill in draining, and have fitted their fields to a greater extent to the climate, in consequence of which fair crops have been reaped in 1829 and 1830, after rains which would have spread absolute desolation over the fields of our ancestors. The enlightened tenantry of this age must enjoy a

higher impression of the benevolence of the Creator, so far as it can be inferred from this single instance, than could be obtained by their predecessors.

If there has been an omission on the part of some of the religious instructors of mankind in not making the most of the natural capabilities of man, as a preliminary condition to the efficacy of divine influence, we may expect to discover discrepancy between the magnitude of the exertions made by them for human improvement and the practical result. Accordingly, to a person of a plain understanding, nothing appears more extraordinary than the contrast afforded between the unwearied exertions of religious sects, and the fruits produced. Compare the sedulous teaching of religion to both sexes in youth, the powerful efforts constantly made to maintain its influence in adult age, with the wide dereliction of its principles in the practical affairs of life, and the deficiency is conspicuous. We do not find the principles of religion pervading all the employments of individuals and the institutions of society. The daily occupations of the artisan, and of every other member of society, ought to be founded on and regulated by its principles. But let us look at the fact. Does the man, who commences at six o'clock in the morning to break stones on the highway, and who, exposed to heat, cold or wet, as the heavens happen to send, labours at this occupation, with only two hours' intermission, till six o'clock at night, for six days in the week, from youth to old age, appear to be employed like a rational being possessed of moral feelings and an immortal soul, sent into this world to cultivate and improve these powers, in order to fit him for higher dignity and enjoyment hereafter? He appears more like a creature condemned to endure penance, but for what specific purpose it is not very easy to discover. As the vivacity of his moral and intellectual powers depends on the condition of his brain, and as exposure to the rigour of a cold and variable climate in the open air, tends, by the laws of nature, to impede the action of this organ, the first fact that strikes us is the direct contradiction betwixt the professed end of his existence, viz. his moral and intellectual improvement, and the arrangement of his physical condition. In the next place, as instruction and exercise of all the mental powers are required by nature as essential to moral and intellectual improvement, the second circumstance that attracts notice is the total absence or inadequate extent of such instruction and exercise. This forms a second contrast between his actual condition and the professed end of his existence on earth. Similar observations are applicable, under proper modifications, to the cases of the artisan, the operative manufacturer, the agricultural labourer, the merchant, the lawyer, the soldier, and statesman. If we look at the professional pursuits

of one and all of these classes; at the principles on which they are conducted, at the faculties which they call into exercise, at the time which they engage, and at the *objects* which they present to the mind, and consider them in reference to the advancement of the individuals in moral and intellectual improvement, we cannot but be astonished at the imperfect adaptation of the external condition of many men to the professed object of their existence. We conceive that human nature admits of institutions and arrangements calculated to favour in a far higher degree than those now existing, the development of their moral and intellectual faculties.

It is justly assumed, that men are sent into this world to prepare, by the cultivation of their higher faculties, for a purer state of existence hereafter; yet, in many instances, their physical condition is opposed to it, and their occupations during nine-tenths of their waking hours have scarcely any perceptible relation to their advancement in the knowledge of God and of his works, or in obedience to his laws. The professional pursuits of an operative tradesman, an extensive merchant or manufacturer, or a well employed lawyer, cannot be regarded as means for developing the rational powers of man, and fitting him for a higher sphere. So far as necessary to provide subsistence and comfort for his body, and to acquire leisure and means of cultivating his nobler faculties, they do conduce to this end; but viewed as the grand pursuits of life, they engross the mind and become impediments to its moral progress. Besides, until these pursuits shall be founded on correct views of human nature, and be conducted on principles directly in accordance with the dictates of the moral and intellectual faculties, they must continue to obstruct rather than advance the improvement of man as a rational being. If nature does not admit of their being arranged, so as to favour this end, then human improvement is impossible; if it does admit of such an ordering of professional pursuits, then religious persons ought to view this as a preliminary condition to be fulfilled before their other principles can become efficacious. In point of fact, artizans, merchants, and professional men in general, know as much, or often more, of moral, intellectual, and physical science, of religion and its practical power, and are purer in spirit, more christian in temper and dispositions, at eighteen than at sixty; though the very religion which they profess teaches them that existence on earth is given to prepare them for religious, moral, and intellectual enjoyments in heaven. In short, the double contradiction presses itself on our attention; the life of busy men is at variance with the professed object of their existence on earth; while at the same time the rectification of this system of society, and the better arrangement of the natural world, are objects very little attended

to by those who profess these high views of human destiny and duty.

It appears to us extremely difficult to reconcile these contradictions, but we shall attempt to elucidate their origin.

The theologians who condemned the natural world, lived in an age when there was no sound philosophy, and almost no knowledge of physical science; they were unavoidably ignorant of the elementary qualities of human nature, and of the influence of organization on the mental powers;—the great link which connects the moral and physical worlds. They were unacquainted with the relations subsisting between the mind and external nature, and could not by possibility divine to what extent individuals and society were capable of being improved by natural means. In the history of man, they had read chiefly of misery and crime, and had in their own age beheld much of both. They were, therefore, naturally led to form a low estimate of human nature, and to expect little good from the cultivation of its inherent capabilities. These opinions having been entwined with religious sentiments, descended from generation to generation; and, in consequence, persons of sincere piety have, for several centuries, been induced to look down on this world as a wilderness abounding with briars, weeds, and noxious things, and to direct their chief attention, not to the study of its elements and their relations, in the hope of reducing them to order, but to enduring the disorder with patience and resignation, and to securing, by faith and penitence, salvation in a future life. It has never been with them a practical principle, that human nature itself may be vastly improved in its moral and intellectual capabilities, by increasing the size of the anterior and superior regions of the brain, and diminishing the size of the lower and occipital portions; which, nevertheless, the principles of physiology, and the facts ascertained by phrenology, warrant us in believing; nor that human nature and the external world are adjusted on the principle of favouring the development of the higher powers of our minds; nor that the study of the constitution of nature is indispensable to human improvement; nor that this world and its professions and pursuits might be rendered favourable to virtue by searching out the natural qualities of its elements, their relationship, and the moral plan on which God has constituted and governs it. Some philosophers and divines having failed to discover a consistent order or plan in the moral world, have rashly concluded that none such exists, or that it is inscrutable. It appears never to have occurred to them that it is impossible to comprehend a whole system without becoming acquainted with its parts; these persons have been ignorant of the physiology of man, of the philosophy of man, of the philosophy of external nature, and their

relations, and nevertheless have not perceived that this extensive ignorance of the details rendered it impossible for them to comprehend the plan of the whole. Hence they have involved themselves in contradictions; for while it has been a practical principle with them, that enjoyment in a future state is to be the consequence of the believer attaining to a holy and pious frame of mind in this life; they have represented the constitution of the world to be so unfavourable to piety and virtue, that men in general, who continue attached to it, cannot attain to this right frame of spirit, or act habitually in consistency with it. They have not had philosophy sufficient to perceive that man must live in society to be either virtuous, useful, or happy; that the social atmosphere is to the mind what air is to the lungs; that while an individual cannot exist to virtuous ends out of society, he cannot exist in a right frame in it, if the moral atmosphere with which he is surrounded be deeply contaminated with vice and error. Individual merchants, for example, cannot act habitually on Christian principles, if the maxims of their trade be not Christian; and if the world be so unfavourably constituted that it does not admit of the rules of trade becoming Christian, then active life and practical religion are naturally opposed to each other. Divines have laboriously recommended spiritual exercises as means of improvement in this life and of salvation in the next, but have rarely dealt with the philosophy of this world, or attempted its rectification, so as to render these exercises truly efficacious. Their minds have been infected with the first great error, that this world is irremediably defective in its constitution, and that human hope must be entirely concentrated on the next. This may be attributed to the premature formation of a system of theology in the dawn of civilization before the qualities of the physical world, and the elements of the moral world and their relationship, were known; and to erroneous interpretations of Scripture in consequence, partly, of that ignorance.

Now, if Phrenology is to operate at all in favour of human improvement, one of the most striking effects which it will produce will be the lifting up of the veil which has so long concealed the natural world, its capabilities and importance, from the eyes of divines. To all practical ends connected with theology, the philosophy of nature might as well not exist; the sermons preached a century ago are equal, if not superior, in sense and suitableness to human nature, to those delivered yesterday; and yet, in the interval, the human mind has made vast advances in knowledge of the works of creation. Divines have frequently applied philosophical discoveries in proving the existence and developing the character of the Deity; but they have failed in applying either the discoveries themselves, or the knowledge of the divine character obtained by means of them, to the practi-

cal purposes of virtue. This, however, Phrenology will enable them one day to do. In surveying the world itself, the phrenologist perceives that the Creator has bestowed elementary qualities on the human mind, and on external objects, and established certain relations between them ; that these have been incessantly operating according to their inherent tendencies, generally aiming at good, always desiring it, but often missing it through pure ignorance and blindness, yet capable of attaining it when enlightened and properly directed. The baneful effects of ignorance are every where apparent. Three-fourths of the mental faculties have direct reference to this world, and in their functions appear to have no intelligible relation to another, such are Amativeness, Philoprogenitiveness, Combaticiveness, Destructiveness, Constructiveness, Acquisitiveness, Secretiveness, Self-Esteem, and others ; while the remaining fourth have reference at once to this life, and to a higher state of existence, such are Benevolence, Ideality, Wonder, Veneration, Hope, Conscientiousness, and Intellect. To guide and successfully apply the first class of faculties to the promotion of human happiness, it appears indispensable that the faculties themselves, the physical conditions on which their strength and weakness, inertness and vivacity depend,—the relations established between them and the external world, which is the grand theatre of their action,—and, finally, the relation between them and the superior faculties, which are destined to direct them, should be known ; and yet, scarcely any thing is known in a philosophical and practical sense by the people at large, on these points. If we are correct in saying that these faculties have, by their constitution, reference chiefly to this world, then we maintain that useful knowledge for their guidance will be afforded by the philosophy of this world ; and that the wisdom which is to reduce them to order will receive important aid from studying the constitution which it has pleased the Creator to bestow on them, and the relations which he has seen proper to institute between them and the other departments of his works. His wisdom and goodness will be found to pervade them. He has bestowed on us intellect to discover, and sentiment to obey, his will in whatever record its existence is inscribed, and yet little of this knowledge is taught by divines to the people.

Knowledge of the constitution, relations, and capabilities of this world is indispensable also to the proper exercise and direction of the superior powers of our minds. In all ages practical men have been engaged for three-fourths of their time in pursuits calculated to gratify the faculties which have reference to this world alone, but, unfortunately, the remaining fourth of their time has not been devoted to pursuits bearing reference to their higher faculties. Through want of intellectual educa-

tion, they were incapable of deriving pleasure from observing nature and reasoning, and they were not furnished with ideas to enable them to think. Owing to the barbarism which pervaded society in general, there was no moral atmosphere in which their superior sentiments could play. Ambition, that powerful stimulant in social life, was not directed to moral objects, but generally the reverse. The hours, therefore, which ought to have been dedicated to the improvement of the higher portion of their faculties, were either devoted to the pursuit of gain, sensual pleasure or ambition, or spent in mere trifling amusements and relaxation. There was no practical onward purpose of moral and intellectual advancement abroad in the secular occupations of society; and the divines who formed public opinion, so far from discovering that this disorder was not inherent in the constitution of nature, and that Christianity, in teaching the doctrine of the supremacy of the moral faculties, necessarily implied the practicability of a state of society founded on that principle, fell into the opposite error, and represented the world as deranged in all its parts; as incapable, by the development of its own elements, of rectification; and thereby added strength and permanence to the evils originating in ignorance and unguided passion.

We are far from casting blame on the excellent individuals who fell into these mistakes; they were inevitable at the time in which they lived, and with the lights which they possessed; but we point them out as errors which ought to be removed. We subjoin a few illustrations of the effects which a knowledge of human and external nature may be supposed to produce in improving the condition of man as an inhabitant of this world.

Divines most properly teach that it is sinful for the sexes to cohabit as husband and wife without having solemnly undertaken the obligations and duties imposed by the ceremony of marriage; that brothers and sisters, and uncles and aunts cannot marry without sin; and that he that provideth not for his own is worse than an infidel. In these particulars, the constitution of nature, and the precepts of divines agree; but the following points, connected with the same order of duties, are generally omitted in the exhortations of the pulpit, and nevertheless, *it is impossible*, without attending to them, to avoid sowing the seeds of misery, producing physical and moral disorder, and directly counteracting the precepts themselves which the divines deliver.

1. Very young persons ought not to marry, because, by the laws to which God has subjected our physical constitution, the offspring of very young parents are generally deficient in bodily and mental qualities, or both. The municipal law allows males to marry at fourteen, and females at twelve; and the divines

take no cognizance of the sin of marrying at an unripe age; whereas Nature, in this climate, is inimical to marriage before twenty or twenty-two in the female, and twenty-five or twenty-six in the male.

One consequence of marriages in extreme youth is, that the first born child or children are in general deficient in the organs of the moral and reflecting faculties, and have an excess of the organs of the animal propensities. A single illustration of the consequences of such a union will suffice to show how deeply it may affect the order of the moral world. Suppose a British Peer of forty, possessed of ordinary qualities, to marry an immature girl of seventeen, and that the first born child is a son. He would prove greatly deficient in moral and intellectual powers. The organs of the propensities would be large, and the anterior and superior portions of the brain, which manifest the higher faculties, would be relatively small. In consequence of this combination, his natural inclinations would lead him to prefer animal gratifications to study, and his innate consciousness of a low mind would render him sceptical of human virtue, and proud of his "order," as the only mark of superiority in his person over the base born vulgar. The law would give him the family estates, and a seat in the Upper House of Parliament, and the customs of society invest him with a vast influence in his native county; but the low formation of his brain would render the high rank, the large property, the legislative voice, and the social influence, so many inlets of temptation to immoral conduct in himself, and so many instruments of perpetrating mischief to his fellow men. The priest might give his benediction at his father's marriage, and his mother be unconscious of sin; but the Creator's laws being violated, His blessing would not fall on the first born. The children produced after the mother arrived at maturity would manifest superior qualities. The result would be still more hurtful were old men to marry very young women; for bodily imperfection would then be added to mental imbecility. We state these cases hypothetically, to avoid the remotest chance of personal allusion; but we entreat any reader who may be disposed to regard them as imaginary, to observe nature, and he will acquit us of this charge.

Nature transmits the constitution of organs from parents to children, and health chiefly depends on the inheritance of them in a sound and vigorous condition. Small organs are, *cæteris paribus*, more feeble than large organs, and less capable of resisting the shock of external influences of an unfavourable kind; or, in other words, they are more liable to disease from the ordinary atmospheric changes, from moral depression, intellectual exhaustion, and other causes. Nature, therefore, proclaims that two persons having both weak lungs, weak stomachs, weak

muscles, or weak brains, ought not to intermarry; the consequence will be the production of an enfeebled offspring, liable from birth to suffering and misery.

Now, our proposition is, that if it be the object of divines to render men happy on earth, to bring their whole being, animal, moral, and intellectual, into the highest state of perfection of which it is susceptible, as a means of preparing them for heaven; and if these ends cannot, by the constitution of nature, be attained, without attention to the points alluded to,—religious instructors, who confine their attention to performance of the ceremony of marriage, to guarding the forbidden degrees, and to the general precept of providing for offspring, omit nineteen-twentieths of the knowledge which is necessary to be taught, and to be practically acted on by the sexes, before they can discharge their duties as rational, moral, and religious beings, on the single point of marriage. Nay farther, we maintain that the points omitted are fundamental, and vital in importance; and that, while they are neglected, and beings are produced with enormous organs of the animal propensities, and small organs of the moral and intellectual faculties, with feeble bodies, and inherent bad health, practical Christianity, as a system not of words and abstract contemplations, but of living action in the bosoms of men, and in the transactions of society, cannot possibly be realized, and moral order cannot be established in the world.

We repeat, that we do not blame the clergy for omitting this instruction, because they could not teach it till they possessed it themselves, and saw its importance. We object, however, to their attempting to excuse themselves after it is pointed out to them, by alleging that this is human science which it belongs to professors in universities, and not to Christian ministers, to teach. With the utmost deference we would answer, that the clergy are the servants of God, appointed to instruct the people in his laws and his will; that while the Book of Revelation is spread out in printed leaves, the Book of Nature is opened wide before them, also in the handwriting of the Deity; and that they are bound to read and to teach his law and his will indicated in the one, as well as in the other; and that it will only be when the truths of nature shall be communicated to the people as part of the Divine law and the Divine will, that they will take a living interest in them, and yield them a willing obedience. Nature has been neglected in clerical teaching only because it has been unknown. Within one generation, after a substantial education in natural knowledge shall have been communicated to the young, the prevailing style of preaching must be improved. Individuals whose instruction is a little advanced, already perceive and lament its inefficiency in consequence of not dealing with human nature in its living form.

2. Divines most properly teach us to condemn riches, and the vanities of life, to set our hearts on things above, and to be instant in prayer, serving the Lord,—all which precepts are admirable in themselves, but utterly impracticable to the great mass of the people while the present arrangements and habits of society prevail. To enable a man really to prefer the enjoyments afforded by active moral and intellectual faculties to the animal gratifications which money may purchase, he must possess, *first*, vigorous moral and intellectual organs, and moderate animal organs; *2dly*, His higher powers must have been cultivated from youth, and stored with positive knowledge, and pure moral perceptions, suited to their real nature; and, *3dly*, He must be surrounded by beings similarly constituted, similarly educated, and loving to act on similar principles. And we again most respectfully say to the clergy, that it is their duty to teach the people every branch of knowledge, and every practical observance, that may conduce to the realization of these conditions, before they can expect their precepts to take effect. At present they issue the injunction to condemn riches, to men in whose brains the organs that desire the gratifications purchasable by wealth greatly predominate; who live in society devoted systematically to the accumulation of riches; and who, without money, cannot effectually influence their fellow men even in favour of religion and virtue; and still they complain that their precepts are ineffectual. As well might a husbandman who should sow seed in the desert complain that he reaped no increase. Let the clergy insist on the absolute necessity of the *natural conditions* which the Creator has rendered indispensable to the practice of virtue being fulfilled, then sow holy precepts, and they shall not have cause to complain of the return.

These are mere illustrations of our position, that some sects have come too hastily to the conclusion, that this world is wrong constituted. Volumes would be requisite to develop the subject completely, and to shew fully its practical importance. In publishing these remarks, we expose ourselves to the question, Who are we that erect ourselves into authorities on the constitution of the world, and become critics on the doctrine of venerable and illustrious divines? We are in ourselves the least influential of men; but if the doctrine which we announce, be a correct interpretation of the constitution of Nature, a high authority supports the positions, of which we are merely the humble expounders. It is extremely difficult for most minds to break through the trammels of popular education, and to view life from a new position; but we solicit their attention to one or two additional illustrations, to enable them to accomplish this end. When Julius Cæsar landed in Britain, he found the people essentially barbarous; they raised corn on the coast, and had chariots for war; but, in comparison with modern times, they were

without roads, ships, science, or machinery,—hunting and war being their chief employments. If he had inquired into their previous history, he would have learned that they had never exhibited higher attainments; and he might have been excusable for treating as fanciful any philosopher who should have said to him, “I perceive in the brains of these men organs of Constructiveness, Ideality and Reflection,—such as the Greeks and Romans possess;—these organs must have been given by the same Creator who bestowed them on us,—and He must have designed them for use. We know that the Greeks and our countrymen emerged slowly from barbarism, and began to accomplish great works by means of these organs, only after they had attained to settled government and partial civilization. The Britons, therefore, may one day put forth their energies, and shew to the astonished world ships of transcendent magnitude and strength traversing their seas; roads on which they shall almost fly by mechanical power; and vast engines performing the most stupendous, as well as the most delicate, operations for the comfort of the people, all of their own construction; otherwise their organs of Constructiveness must be abortive gifts, never calculated to come into practical activity.” Cæsar might have been excused for treating such a philosopher as a vain enthusiast; yet, to a mind which could have traced the fruit in the bud, the result supposed to be predicted would have appeared natural; and we have seen it accomplished. We offer this as an illustration of the position, that the mechanical powers having been given, were intended to be practically used; and that the world was constituted in harmony with them, even at a time when this fact was not apparent to an ordinary observer. They remained, indeed, long dormant; but we beg of the reader to attend to the circumstances which rendered them comparatively feeble in the days of Cæsar, and triumphantly energetic in our own. *1st*, It is probable, from what we know of the brains of other barbarous people, that the organs themselves, although then possessed by our ancestors, were not so large and powerful in them as in us, many centuries of cultivation having tended to enlarge them; *2dly*, The elements of physical nature, and their mutual relations, were then unknown; and, *3dly*, The order of society was unfavourable to their exercise; violence predominated to so great an extent, that the products of industry were carried off or destroyed by the hand of lawless rapine, and their authors did not reap their fruits. These reasons are sufficient to explain why the ancient Britons were unskilled in mechanical science; and to shew that the proper conclusion for a philosopher to have drawn in the age of Cæsar, was, that they required to develop their mental powers, to become acquainted with external nature, and to amend their social institutions, in order to ex-

in mechanical inventions ; and not that their own minds were barren and nature obdurate, and that huts for habitations, and undressed skins for garments, were all that Providence intended them or their posterity ever to enjoy.

The case in regard to the moral nature of man is more directly parallel to this than might at first be supposed. 1st, It is certain that moral and intellectual organs exist in man ; and we are authorised to conclude, that, because they have been bestowed in this world, they are intended to be used in it ; and that, being meant for use, human nature itself and external nature must be so constituted as to admit of their fair exercise and gratification. 2dly, As facts authorise us to believe that the constructive organs have increased in size and power by cultivation, there is reason to expect that the moral and intellectual organs also will be improved by similar means. Indeed, in surveying the skulls of our ancestors, they indicate inferior moral and intellectual organs to those of the present generation. 3dly, It is an undeniable fact, that, in so far as regards the mass of society, a profound and general ignorance prevails concerning the constitution of the external world, the constitution of their own minds and bodies, and the relations among these ; while, nevertheless, a knowledge of these particulars is as indispensable to our reaping full advantage from our moral and intellectual powers, as acquaintance with physical nature is to the profitable exercise of mechanical invention. 4thly, As the mechanical faculties could not flourish in a rude and lawless age, we are entitled to assume that the moral and intellectual powers cannot put forth all their inherent vigour in an imperfectly civilized condition of society. 5thly, That, as experience has proved that barbarous institutions have passed away, and left a fair field of exercise to the mechanical powers, so we are encouraged to hope that the ignorant and selfish state of society now existing will ultimately be superseded by a more enlightened and better constituted condition, calculated to admit of the moral and intellectual portions of our nature attaining to full and unrestricted supremacy and vigour.

If there be any truth in these positions, we humbly think that they warrant us in saying, that Phrenology will one day produce a change in the sentiments and institutions of the world, beneficial to the Christian religion ; and that one of its first effects will be to lead the clergy to use means for producing the natural conditions, in individuals and society, which are indispensable to practical Christianity, and then to hope for their doctrines being favoured with the Divine blessing, and an abundant increase of fruit. The functions of the brain and the philosophy of mind have not been discovered to serve as mere laughing-stocks to witless essayists. They are parts of creation of the very highest importance, and we are warranted in saying, that the disco-

very of them involves in its train consequences of the utmost interest to human happiness.

Some pious persons may perhaps charge us with foolishness, if not atheism, because we advocate these views; but we retort on them that, besides unintentionally, yet virtually, denying the Deity, as the governor of this world, they are practically strangers to the extent of His power and goodness displayed in sublunary creation. They see the beauties of the earth, and the magnificence of the heavens, as poets or painters behold them, but they do not perceive or understand the constitution of human nature, and the relations between it and external creation. They are strangers to the designs of the Creator manifested in these works in relation to Man. A mystery hangs over them which they have not penetrated, and hence, although they ardently desire to know God, they look for him almost exclusively in a spiritual world. We see and feel Him in us, and in every thing around us. Having obtained a knowledge of the faculties which He has bestowed, and discovered some of the relations between them and creation, our eyes have been opened to a perception of a vast extent of design, wisdom, and goodness in the Creator, which was hidden from us until we obtained the light which renders it discernible.

In conclusion, we observe, that while we do not contend for the absolute perfection of physical creation, or the perfectibility of man by natural means, we are humbly of opinion, that there are far more excellencies and capabilities in both than have hitherto been discovered; and that the study, evolution, and proper practical application of the natural elements of the physical and moral worlds are indispensable preliminaries, and most important auxiliaries, to human improvement. It is one of the excellent characteristics of the Christian religion, that it is adapted to every state of society,—to men scattered in wildernesses or thronged in crowded cities; and hence religion is shorn of her power and utility as a practical system of instruction, by whatever tends to widen her separation from science, philosophy, and the affairs of this world. The human faculties having proceeded from the Creator, are framed in harmony with the actual constitution of nature; and would kindle with zeal, and labour with delight, in studying, unfolding, and applying it, if so directed; whereas they are restrained, cramped, paralyzed, and enfeebled, by inculcating habitually maxims which cannot become practical, in consequence of the natural conditions on which they depend not being previously produced. This unfortunate habit of undervaluing the capabilities of the natural world, and neglecting the study of it, diverts the attention of the best minds, among the people, from the real road to improvement. In consequence of the constitution and moral relations of the natural world being

too much neglected—while, at the same time, the Creator has rendered a knowledge of them indispensable to moral cultivation—preaching is inefficacious in improving the temporal condition of mankind, to an extent unprecedented in most human institutions. This conclusion is forced on us, when we compare the number, zeal and talents of the teachers, the provisions made by law for their support, and the favourable dispositions of the people to profit by their instruction, with the actual benefits communicated by their preaching. When divines shall have become acquainted with the real constitution of the world, and the moral plan which pervades it, and shall have dedicated their talents to teaching these to the people, as preparatory for their other doctrines, they will find themselves and their instructions invested with a moral power and efficacy to which they have hitherto been strangers; and then, but not till then, will religion, science, philosophy, practical business, and recreation appear resting on one basis, animated by accordant spirits, coinciding in their objects, and contributing to one end,—the improvement of man as a moral, intellectual, and religious being. These remarks apply exclusively to the temporal effects of religion. Its influence on the eternal interests of mankind is too sacred a subject for discussion in a journal devoted solely to philosophical inquiries.

ARTICLE III.

REMARKS ON THE PECULIARITIES OF MEMORY. Read to the Phrenological Society, by Mr HEWETT WATSON.

IN general society I find few subjects about which so many questions are asked from Phrenologists, or in regard to which so many confessions of inferiority and vaunts of superiority are continually made, as we daily hear on that of Memory. Our own powers of memory being so continually called into action, and, together with the capabilities of others in the same particular, exercising such a very important influence over our comfort and improvement, amply account for the general interest and curiosity felt on this point. But notwithstanding these oft-repeated calls, it appears to me that phrenologists are commonly far from satisfying their anxious querists. Much difficulty, no doubt, is occasioned by the state of mind of the non-phrenological inquirers, who are too often accustomed to express, or attempt to express, their ideas in terms so vague and general, that the chance of exciting thereby in another mind exactly similar notions to those existing in their own is very remote indeed. The consequence is mutual misapprehension of each other and corresponding dissent, while if the exact ideas at-

tached to the words by each were known to the other, there would probably be no difference of opinion whatever. Should persons thus circumstanced be lucky enough at length to discover the similarity where they believed there to be only dissimilarity of opinion, the difference is called a dispute about *words*, when, in point of fact, it lay entirely in the *ideas* excited in consequence of each mind individualizing in a different manner the conceptions attached to general terms. Dr Spurzheim in his lectures, is particularly attentive to point out the difference between general and specific expressions; to exemplify which, I have heard him use an illustration something like this, viz. Suppose I tell any one that in my pocket there is an organized being. By this vague generality I give him no positive knowledge: he may think of an animal, whilst I am meaning a plant. If I tell him successively that it is an animal, a bird, a finch; from neither of these does he obtain definite knowledge; there are in existence many animals, many birds, many finches, greatly differing from each other. Should I, however, in lieu of these general words, tell him at once that the object is a chaffinch, a goldfinch, or a hawfinch; he has then definite information, and the idea conveyed to him is the same as that existing in my own mind.

Now it appears to me that the use of the word *memory* in its general sense, with the addition of some such vague epithet as *good* or *great*, and connecting this with large organic development, causes much confusion and much misunderstanding between phrenologists and non-phrenological inquirers. I have repeatedly heard individuals say to phrenologists, "Have I a good memory?" and the latter, trusting perhaps to a large anterior lobe or a considerable development of Individuality, say at once "You have," which has instantly been denied, with sundry comments on the uncertainty of phrenological predications. In hopes to draw the attention of phrenologists to the necessity of a little more exactness in this respect, it will be my object in the present paper to attempt a specification of some of the principal varieties of memory, with such suggestions in regard to the conditions whereon they depend as I may be able to throw out; although, in so doing, errors may be committed in respect to what are the real causes of the different varieties. Any remarks of this kind are therefore merely offered as hints, whose correctness is to be tested by applying them to nature, and not as explanations positively ascertained and settled.

For the more easy illustration it will be convenient to distinguish the varieties of memory into two leading subdivisions, which may be termed "Simple Memory," and "Memory by Association." Simple memory is that wherein the idea of a sound, colour, object, or event appears to recur directly and

spontaneously ; as for instance, having once seen a house or a tree, and the idea or mental impression returning afterwards, we are then said to remember it. Memory depending on association is indirect, and may be exemplified by the fact that we can scarce think of the summer sky, or the roses that bloom beneath it, without immediately remembering the concave form and blue tint of the former, or the peculiar shape and blushing dyes of the latter. The inseparable connection that comes to be established between the arbitrary sounds and shapes used in speech and writing, and various mental ideas, so that the mere sound or sight of a word inevitably recalls its appropriate idea, is another familiar illustration of memory by association. Such associations vary from the closest possible approximation with simple memory to the most remote, incongruous and artificial associations that exist.

To commence with Simple Memory. One of the most striking varieties entitled to be ranked in this division, is that wherein an individual is capable of remembering a *great number* of ideas, whether they be chiefly of shapes, sounds, objects, colours, or whatever else. The remembrance of them may be lasting or transitory ; it may be orderly or without arrangement ; the individual may be rapid or slow in reproducing impressions previously formed. Such a memory, in short, may be indefinitely varied in every other respect, excepting that named as its distinguishing mark, viz. the multiplicity of ideas remembered. I have seen several individuals exhibiting a memory of this kind, but varying greatly among themselves in the duration, clearness, readiness, and other peculiarities of the ideas remembered. It is this variety which is commonly meant by the frequent expressions "a good" or "a great memory," though by no means invariably so. It appears essential to attaining a first rank in most departments of science and literature, and is the variety which led Gall to the discovery of the intellectual organs, the condition on which it depends seeming to be large organic development. They who take in and remember the greatest number of ideas at once, whether the same ideas be remembered for a long period, or be shortly supplanted by others, have, *ceteris paribus*, the largest organic development. I have observed in botanists, having Language and Individuality but moderately developed, the power of remembering for a long period, and with accuracy, a limited number of plants, their names and peculiar distinctive characteristics, as, for instance, those of a particular garden, district, or country ; but on expanding their range of observation, they forget the former, apparently from a difficulty of retaining a multiplicity of ideas in a small organ. Others, on the contrary, will write systems embracing the whole of the vegetable kingdom, which implies an amount of indivi-

dual knowledge almost incomprehensible to a small development. The mask of Sir James Smith, whose principal botanical skill lay in a knowledge of the various names which botanists and others had, at different periods, applied to the same plant, shews Language to have been large, and, in consequence, he remembered many names. Individuality and Form are both well developed, but these two organs I have seen relatively superior in some of the best *specific* botanists of Britain, who remember the plants themselves better than their names. This variety of memory would be appropriately distinguished by the epithet *extensive*. As, however, it depends essentially on large organic development, which scarcely any person possesses in every faculty, this memory is always more or less partial, that is, limited in respect to the kind of ideas remembered; so that, in order to characterize it with precision, it would be necessary to say, an extensive memory of words, of colours, of sounds, or whatever else it might happen to be. Many persons mistake the limit in kind for one of degree only, and lament in general terms their deficiency of memory, when in reality they possess an extensive memory for one range of ideas combined with a limited memory for another, the deficiency being most felt by the inconvenience it occasions is taken as the general criterion. Exercise seems to have less influence on this variety than it has over others presently to be mentioned, probably more influencing the direction than the quantity of ideas remembered. Linnæus, Sheridan, Newton, Johnson, Cuvier, and Sir Edward Coke, may furnish examples of the extensive memory, and that chiefly in one particular range or direction.

A second variety of memory, is that of men who are capable of remembering what they see, hear, or do, during a very long period; their mental impressions appear to bid defiance to time, and to bear its daily attritions almost without change. Whether the subjects remembered be few or many, and of whatever kind or nature, still mental images of them once formed remain deep and distinct. Individuals endowed with this variety of memory in its highest degree, will often converse nearly as easily and correctly of occurrences years gone by, as others do of those which happened but a week before. There are boys who will learn their school tasks with ease and rapidity, but just as easily and rapidly forget them; the lesson which was perfect last week, is to-day a dim and scarce perceptible outline of something that has once been, but is now almost effaced from the soft-moulded tablets of memory.

On the other hand, we may find some of their school-fellows, whose tasks are the same, whose instructions scarce in the slightest degree different, yet in this respect attended with the most dissimilar results. The task of last week or month is

nearly as fresh in memory as though it had been learned but yesterday, and they wonder how others *can* forget so quickly, while these in turn are astonished that such retentiveness of memory can exist in any one. It seems yet an unsolved problem on what organic peculiarity this depends. That it is not attributable to size, or at least to size alone, every day's experience must assure us; and all that can at present be suggested in regard to it is, that *quality* rather than *quantity* of brain is the condition whereon it is dependent. It seems to be almost invariably accompanied by a degree of slowness in action, a want of that rapidity in the flow of ideas characteristic of the next variety to be mentioned. The slowness and tenacity may perhaps depend on the same peculiarity in the composition or quality of brain, the retentiveness of former ideas being connected with the slowness in acquiring new ones. On reading this to the Phrenological Society, a case was mentioned of a gentleman who, after learning to repeat long passages in a short space of time, found that he very soon forgot them, and that, when acquired with more slowness, they were long remembered. It would appear from this, that the slowness in acquiring ideas is an antecedent to retentiveness; we are scarcely authorized to say a *cause*, for both the one and the other may, and most likely do, depend on some (general or temporary) constitutional condition checking rapidity. The epithet *retentive* would pretty correctly designate this variety of memory, and distinguish it from the former, with which it may or may not be combined. I have noticed it in men with a limited, as well as in those who possess an extensive memory; but, *cæteris paribus*, it seems most marked in such individuals as engage in the smallest variety of pursuits: whether it is an effect or a cause of uniformity in taste and pursuit may admit of doubt. The inhabitants of the country seem to remember with more tenacity than such as live in large towns; and certainly they are more apt to imbibe ideas with slowness and deliberation. Joined with an extensive memory it constitutes the man of knowledge, and is therefore an essential element in forming a scientific character, but will scarcely make a witty or shewy one. Joseph Hume, Julius Cæsar, and perhaps Napoleon, may be cited as examples of it.

A third variety of Simple Memory is characterized by the rapidity with which previous ideas are reproduced in the mind. One after another, or one dozen after another dozen, previous thoughts and impressions are renewed, and come floating athwart the mental eye in perpetual changeability and succession. They may arise in a regular, connected, and systematic series, or be poured forth in the most mixed and heterogeneous assemblages, like the multitudinous *olla podrida* of a masquerade, or the endlessly varied hues and objects of an extensive landscape. Rapi-

dity of ideas is the essential characteristic of this modification. Whether such ideas be correct or erroneous, limited or general, connected or disordered, seems to be determined by other conditions different from those on which depends the mere quickness of their reproduction. Somewhat paradoxical though it may at first appear, I believe this rapidity of memory, while it occasionally assists, more frequently prevents success in oratory. If there be a general fulness of the anterior lobe, including Language, then ideas of all kinds, with suitable words and modes of expression, being presented in rapid succession, the individual having this combination will make an easy and fluent speaker, unless too large Cautiousness or other peculiarity in the development of the sentiments and propensities, interfere with his attempts. When, however, there is any considerable inequality in the intellectual organization, of course he will only speak with ease on the subjects adapted to the prevailing development, because his ideas, though generally rapid, are copious only in particular directions. Should Language be defective, with other intellectual organs great, rapidity of memory, added to the copiousness resulting from large size, will tend to increase the disproportion between the flow of words and of ideas; rapidity of reproduction in a small organ presenting the same words over and over again, the individual will in his ideas get too far in advance of his supply and choice of words, become confused, hesitate, stammer, and fail to communicate what he himself has too lively ideas of, while to others he may appear to be in want of them. Reverse the relative proportions, and words being supplied with rapidity and copiousness, ideas with rapidity not joined with copiousness, then the same ideas recur, and are repeated, but the form of expression varied. If the relative superiority of Language be not too great, this generally pleases an audience; when too much in excess it becomes tiresome, and the speaker is said to have the *vox et præterea nihil*. Rapidity of ideas or memory seems an important element in the production of Wit. Large Language and Individuality with great rapidity, tends to produce punning, and that style of wit designated as "good things," "apropos remarks," "clever hits," &c., which I have seen greatly manifested when the organ called Wit has been of very moderate development. It is perhaps this rapidity of memory occurring in cases of deficient development of Concentrativeness that causes what is commonly termed "far-fetched wit," or that conjunction of widely dissimilar and unrelated ideas called up by rapidity unrestrained by concentrated action. The wit of those in whom the reflective powers are considerable and Concentrativeness not so, often consists either in jumping at once to remote conclusions without testing their accuracy step by step (whence may have arisen the idea of calling the organ of

With "faculties" really, as we understand the distinguishing quality of the faculties, does not come along with the identity of names. The words *retentiveness*, *retention*, of *Walture*, in which, however, *retentiveness*, though not amongst the largest organs, is well developed, it resides a feature in speed, which endows the human creature with the attributes of immortality, and gives us those and some the qualities peculiar to immortality. If *Walture* be also (more certainly perhaps) *retentiveness*, it is great. With seldom spontaneous, but more a feature in the movement of the study. I know persons of slow memory, who are unable to discover and laugh at a sentence when it has been forgotten by others, who had appreciated it at the moment of utterance. The effect of this is so peculiar that I doubt not such instances will be remembered by most readers. Rapidity of memory is probably influential in determining to the production of poetry, being evinced in the variety of its imagery, and what one of the fraternity has well exemplified in the expression "diverging fancies." Johnson represents a poet, describing the qualities necessary to constitute one, exclaim, "To a poet nothing can be useless. Whatever is beautiful and whatever is dreadful must be familiar to his imagination: he must be conversant with all that is awfully vast, or elegantly little. The plants of the garden, the animals of the wood, the minerals of the earth, and the meteors of the sky, must all concur to store his mind with inexhaustible variety;"—"for he who knows most will have most power of diversifying his scenes, and of gratifying his reader with remote allusions and unexpected instruction." It is evident, however, that knowledge alone never makes a poet, even with Language and Ideality largely developed; and, on the other hand, moderate knowledge and moderate Ideality may be found in some tolerable poets. Let rapidity in reproducing simple ideas, so as to have what Johnson terms "inexhaustible variety and the power of diversifying his scenes," be added, and the man of fancy, *ceteris parum*, is formed. It is quite obvious, that improvisatori poets require the combination of rapidity and copiousness of ideas. Rapidity in excess, implying a perpetual transition of ideas, incapacitates for science; hence we rarely if ever find first rank in science and poetry, or science and wit, in the same person. Intermediate gradations may unite both in nearly equal degree. In noticing the former variety, I had suggested the variety, if not incompatibility, of the rapid and the retentive memories co-existing in a great degree; but was informed on reading the remark, that Professor Mezzofante of Bologna combines both rapidity and retentiveness of verbal memory. The nervous temperament seems instrumental in giving this quality of brain, or perhaps might with more correctness be regarded as the effect.

but it is certainly not peculiar to the dark varieties of that temperament : some of the most striking examples of rapid memory I have met with occur in persons of light complexion. An appropriate mode of distinguishing this modification of memory from those previously mentioned, would be by attaching to it the epithet *rapid*. Miss Pratt, quoted in the phrenological works as an example of large Individuality, may be cited as an instance of rapid combined with extensive memory of objects and occurrences.

Nearly allied to, but by no means always co-existent with, the rapid memory, is readiness of memory, or the power of immediately directing it to any given subject. There are men of considerable rapidity and diversity of ideas, who, if suddenly asked the simplest question concerning any matter not just then occupying their thoughts, find great difficulty in turning the current of their ideas into a new channel, or opening a new spring. They thus seem, both to themselves and others, to be remarkably deficient in memory. Inequality of development probably tends to increase this peculiar defect, but it appears to me that Concentrativeness and Secretiveness, one or both, are also concerned. An individual thus circumstanced seems reft of the power of guiding his ideas ; he thinks of every thing but the right one, and feels all his thoughts in a state of chaos, amongst which he is seeking one with very little chance of finding it. We have all heard of instances where men have forgotten their own names ; and to forget the names of others, business that ought to be done, and such matters, is of daily occurrence in persons whose scientific knowledge and literary attainments prove incontestibly both power and activity of brain. Others, on the contrary, are distinguished for a promptitude and readiness of memory always just in the particular direction in which it ought to be at the time. These men are thought to have a prodigious memory, to be highly clever, to know something about every thing. I have but few observations on the development of individuals whose memory presents this modification, but it seems in perfection when large Secretiveness, Concentrativeness, and the anterior lobe, especially Individuality, are combined with rapidity, and to be proportionally injured by the abduction of any one of these requisites. I have seen an instance of this promptness of memory in a case where the knowing organs, particularly Individuality and Eventuality, with Secretiveness, were large, Concentrativeness and the reflecting powers rather above moderate, with a medium degree of rapidity and retentiveness of memory. The epithet *ready* or *prompt* may designate this variety of memory, which probably occurred in Burke, Pitt, Curran, and Sheridan.

To the preceding peculiarities of memory, there yet remains

Wit "Conclusiveness"), or by connecting the distinguishing qualities and attributes of one person or thing with the identity of another. This is the wit of Sterne, often too of Voltaire, in whom, however, Concentrativeness, though not amongst the largest organs, was of good development. It is also a feature in poetry, which endows the brute creation with the attributes of humanity, and gives to flowers and stones the qualities peculiar to animated nature. If Memory be slow (more certainly perhaps if Concentrativeness be great) Wit is seldom spontaneous, but may be distilled in the retirement of the study. I know persons of slow memory, who are apt to discover and laugh at a witticism when it has been forgotten by others, who had appreciated it at the moment of utterance. The effect of this is so peculiar that I doubt not such instances will be remembered by most readers. Rapidity of memory is probably influential in determining to the production of poetry, being evinced in the variety of its imagery, and what one of the fraternity has well exemplified in the expression "thronging fancies." Johnson represents a poet, describing the qualities necessary to constitute one, exclaim, "To a poet nothing can be useless. Whatever is beautiful and whatever is dreadful must be familiar to his imagination: he must be conversant with all that is awfully vast, or elegantly little. The plants of the garden, the animals of the wood, the minerals of the earth, and the meteors of the sky, must all concur to store his mind with inexhaustible variety;"—"for he who knows most will have most power of diversifying his scenes, and of gratifying his reader with remote allusions and unexpected instruction." It is evident, however, that knowledge alone never makes a poet, even with Language and Ideality largely developed; and, on the other hand, moderate knowledge and moderate ideality may be found in some tolerable poets. Let rapidity in reproducing simple ideas, so as to have what Johnson terms "inexhaustible variety and the power of diversifying his scenes," be added, and the man of fancy, *cæteris præsumendis*, is formed. It is quite obvious, that improvisatori poets require the combination of rapidity and copiousness of ideas. Rapidity in excess, implying a perpetual transition of ideas, incapacitates for science; hence we rarely if ever find first rank in science and poetry, or science and wit, in the same person. Intermediate gradations may unite both in nearly equal degree. In noticing the former variety, I had suggested the rarity, if not incompatibility, of the rapid and the retentive memories co-existing in a great degree; but was informed on reading the remark, that Professor Mezzofante of Bologna combines both rapidity and retentiveness of verbal memory. The nervous temperament seems instrumental in giving this quality of brain, perhaps might with more correctness be regarded as the effect;

but it is certainly not peculiar to the dark varieties of that temperament: some of the most striking examples of rapid memory I have met with occur in persons of light complexion. An appropriate mode of distinguishing this modification of memory from those previously mentioned, would be by attaching to it the epithet *rapid*. Miss Pratt, quoted in the phrenological works as an example of large Individuality, may be cited as an instance of rapid combined with extensive memory of objects and occurrences.

Nearly allied to, but by no means always co-existent with, the rapid memory, is readiness of memory, or the power of immediately directing it to any given subject. There are men of considerable rapidity and diversity of ideas, who, if suddenly asked the simplest question concerning any matter not just then occupying their thoughts, find great difficulty in turning the current of their ideas into a new channel, or opening a new spring. They thus seem, both to themselves and others, to be remarkably deficient in memory. Inequality of development probably tends to increase this peculiar defect, but it appears to me that Concentrativeness and Secretiveness, one or both, are also concerned. An individual thus circumstanced seems rest of the power of guiding his ideas; he thinks of every thing but the right one, and feels all his thoughts in a state of chaos, amongst which he is seeking one with very little chance of finding it. We have all heard of instances where men have forgotten their own names; and to forget the names of others, business that ought to be done, and such matters, is of daily occurrence in persons whose scientific knowledge and literary attainments prove incontestibly both power and activity of brain. Others, on the contrary, are distinguished for a promptitude and readiness of memory always just in the particular direction in which it ought to be at the time. These men are thought to have a prodigious memory, to be highly clever, to know something about every thing. I have but few observations on the development of individuals whose memory presents this modification, but it seems in perfection when large Secretiveness, Concentrativeness, and the anterior lobe, especially Individuality, are combined with rapidity, and to be proportionally injured by the abduction of any one of these requisites. I have seen an instance of this promptness of memory in a case where the knowing organs, particularly Individuality and Eventuality, with Secretiveness, were large, Concentrativeness and the reflecting powers rather above moderate, with a medium degree of rapidity and retentiveness of memory. The epithet *ready* or *prompt* may designate this variety of memory, which probably occurred in Burke, Pitt, Curran, and Sheridan.

To the preceding peculiarities of memory, there yet remains

to be added another, which, from its influence over memory by association, may be viewed as the transition and connecting link between the two artificial divisions here made. I mean partial memory, or that limited to particular ranges of ideas. The connection between partial memory and proportionate development of the cerebral organs is so completely one of the foundation-stones of Phrenology, that it must be quite unnecessary to say any thing about it here; but we must never lose sight of the fact, that partial memory dependent on this cause, is exhibited only in the *nature* of the ideas, as those of colour in contradistinction to shape, or shape in opposition to dimensions, and not merely in the peculiar direction. The same development, so far as we know, may form either a botanist or an entomologist; a collector of medals or of ancient weapons; an historian or biographer; a phrenologist or a metaphysician. There are, however, cases where the proportionate development determines the direction of ideas and memory, but then such direction is to perceptions of an entirely different nature; for example, if a large Constructiveness be accompanied with large Colour and Form, it is very likely that painting will be the direction; but let the latter organs be small, and Weight large, and mechanics will be preferred. But in those instances where the same organ or set of organs are directed to a particular object of study in preference to others closely allied to it, as to plants rather than to insects, to minerals in lieu of shells, or the history of one country in preference to that of another; the particular direction in such cases seems often determined by the object being presented to the mind at a time when there exists an internal, and apparently spontaneous, physiological excitement of brain: this accidental presentation serves both as a temporary gratification and subsequent stimulus to farther gratification. The more equal the development, the more influence must the accidental presentation of external agents exert in determining its direction. Many instances, however, of partial memory are on record, where neither inequality of size, nor the presentation of objects of gratification during spontaneous activity, have any thing to do with the partiality. Such occur sometimes after injuries, as in the case of the Welshman, who forgot his acquired English but remembered his original Welsh; of the lady in Dublin, who, after a fall, had forgotten her name acquired by marriage, but remembered that previously possessed; and the still more extraordinary examples of persons, like the patient of Dr Dyce and the American female, exhibiting a twofold consciousness and twofold memory. Old people are well known to remember the events of youth best, and to forget the most recent impressions of advanced years. Intoxication, moral emotions, and various other states of the brain,

also modify memory, making it strong or weak in particular directions. Indeed, the peculiarities of partial memory are immensely varied, and very difficult to explain.

The modifications of memory, depending on association, are also very numerous; and but a slight notice of some of the more usual and important examples of it can at present be attempted. One of the simplest and most easily intelligible varieties is that wherein the mention or spontaneous recurrence of one idea recalls immediately additional ideas connected with it, as, for example, if it be a flower, or an article of furniture, ideas of its shape, size, colour, and other properties, of the place where, and time when, it was seen, and any other impressions connected with it or relating to it: the very name or memory of a rose suggests ideas of its colour, shape, and odour, none of which might probably have occurred just at the same time, unless preceded by that of the rose; *e converso*, the colours blue, pink, and white, are exceedingly apt to remind us of the summer sky, the budding roses, or the snow-wreaths of winter. Memory of this kind seems to depend on a general tendency, in one organ, to excite others into action; it being difficult, perhaps impossible, to call one into play without at the same time arousing others near to it. Nor is this at all to be wondered at, when we consider the intimate organic connexion between them and the community of their vessels. Mr Combe remarks that there is a natural tendency to combination between the most developed organs.

Another variety of associated memory seems to depend on successive changes in the condition of the same cerebral organ, or set of organs. It is very unusual to remember one object that has been seen, without at the same time the remembrance of this being accompanied by a recollection of various others with which the first was associated. If, too, we remember one occurrence that has happened to us, remembrance of others occurring simultaneously, or in immediate succession, is also excited. Successive and simultaneous ideas may be thus recalled, or spontaneously recur, without accurate remembrance of the relative position, duration, order, or dependence of the objects and events to which they relate, and hence would appear to be mainly dependent on changes occurring in one and the same cerebral organ, not as in the former variety, on account of one organ calling another into action.

Partly on the same cause probably depends a third variety of associated memory, in which previous ideas are spontaneously renewed in a succession regulated by the similitudes and differences of the ideas remembered. They who believe the perception of resemblance and difference to be a distinct and primitive power would regard this as an example of simple partial me-

memory depending on the temporary activity of the organ of Comparison. Believing, however, ideas of resemblance and difference to arise from the activity of any intellectual organ, I allude to the memory of them thus associated, as dependent on varying conditions of the same organ. This modification also seems to be closely connected with the proportionate development. There appears to be a natural tendency, in every one, to classify and combine his knowledge, but individuals differ greatly from each other in regard to the points fixed on as the ground-work and symbol of union, which is probably determined by the organs prevailing over others in size. One with large Colour having a tendency to combine objects into imaginary groups, according to their colours; another with large Locality, classifies them according to their relative positions. One with Causality in predominance prefers the laws and similarities of mutual dependence. It thus happens that knowledge becomes associated through medium of the best developed organs, and consequently is remembered by the same connexion. Hence, should we name a blue object to one combining a large organ of Colour with small Locality and Causality, the next idea excited by it is very likely to be that of another blue object. Had Colour been small and Causality large, an idea of dependence or connexion between the object named and some other, would, in all probability, have occurred, and the object next thought of might thus have exhibited any colour. There is much difficulty in reading the succession of ideas floating along in the memory of others; but having frequently solicited persons, whom I have observed to pass from one idea to another apparently very different, to explain how they happened to get at the second, it appears to me to be most commonly done through the medium of the largest organs*. If a botanist think of a cowslip, he will be very apt to remember a primrose, auricula, or oxlip, associated with the cowslip in botanical arrangements; a poet would be as likely to think of Ariel lying in its bell, of a bee sucking its honey, or its associate har-binger of summer the cuckoo's note.

Ideas of things similar in one or more points thus succeeding each other, they in turn excite other organs to remember other qualities connected with such successive ideas, and thus we have another and very complex variety of associated memory. For instance, when the sight of a cowslip has recalled to the botanist an idea of a primrose through medium of Individuality, this excites Size, Colour, Number, Locality, &c., which respectively supply other ideas of the dimensions, the hue, the number and

* It is worthy of notice, that persons in whom the reflective powers are deficiently developed, appear scarcely able to look at and trace the successive changes occurring in their own minds. They seem unable to feel that ideas are within, not without.

position of the flowers. Memory may, on this account, be greatly improved, by establishing habitual associations between different organs, particularly between a large and small one; but all are not equally adapted for this, size being the same: and when the size of an organ employed or addressed in such artificial aids to memory is less than the one which it is meant to assist, confusion instead of utility is the result; hence a system of mnemonics, highly useful to one individual, may be injurious to a second, whose development happens to be inversed in its proportions. Sometimes two organs, associated together, may serve to excite memory in or supply the place of a third. The writer of this well remembers being taught geography at an early age, by means of coloured maps, and, though finding great difficulty in remembering the relative position of geographical divisions, he could always point to the county of York, or the Empire of Russia, in the maps of England and Europe, because they both presented a combination of large size with yellow colouring, in this respect reminding him of the sunflowers of the garden, and even to the present day, York, Russia, and sunflowers are associated in his memory. It was remarked above, that the different organs were not equally useful as aids to memory, and for this reason; we may remember one colour or shape without thinking of another, or of any other coloured object besides that one whose colour is then remembered, but the idea of place, of time, or of dependence, can scarcely be excited by memory of one object or event without memory of another with which it stands in such relations; hence the organs of Time, Locality, and Causality have come into general use for connecting our knowledge. Naturalists, geologists, and geographers employ Locality; historians and biographers use Time; politicians, moralists, &c. &c., adopt Causality.

The propensities and sentiments are equally influential in connecting ideas as they are in modifying the intensity and duration of simple memory. Cats and dogs, from an apprehension of corporeal suffering, may be made to live in perfect peace with animals which, if not so restrained, they would immediately kill and devour. Regularity in taking food, both in man and other animals, inseparably connects the ideas of certain times and of eating, even though hunger may exist in a higher degree at other periods; so that we hear hungry men say, "I should like some more, but it will spoil my dinner." They act as though they were compelled to eat at a stated period and were conscientiously bound not to enjoy such gratification at any other time. Cats, dogs, and other animals, can be taught, and indeed often learn without instruction, to connect in idea the sound of a bell with the presence of food, and hasten to it. Bears are said to be taught their clumsy gestures, called dancing, by re-

peatedly placing them on heated iron floors, and at the same time sounding the music to which they are afterwards to renew their motions. In process of time they learn to connect their ideas of sound and motion.

I have by no means attempted to exhaust the varieties of memory, indeed they appear almost unlimited, but have merely noticed a few of the more important and frequent modifications, to show the necessity of ceasing to speak in general terms of a good or a bad memory, and then connecting these expressions with a large or small organic development. Since a large development, combined with the retentive, the rapid, the ready, or other modifications of memory may produce results very dissimilar from the same amount of material size; and, again, moderate development, together with the qualities giving retentiveness or readiness, may seem, and indeed readily be accompanied by what is called good memory,—the determination of the peculiar conditions on which such varieties of memory depend would be of the greatest value and importance, but of course can only be positively ascertained by frequently repeated observation. It is scarcely necessary to add, that all the varieties of memory exist together, but differ in relative strength in each individual, and even in the same person at different times.

ARTICLE IV.

BOUILLAUD'S EXPERIMENTS TO DISCOVER THE FUNCTIONS OF THE BRAIN.—(*Concluded from No. XXVIII. p. 144.*)

“Part II.—*Determination of the Function of the Anterior or Frontal part of the Cerebrum.*”

“**E**XPERIENCE alone can give a just idea of all the difficulties we encounter in attempting to ascertain the functions peculiar to each portion of the cerebrum. So great and multiplied are these difficulties, that it is to be feared that this important department may still remain for a long time, if not in utter obscurity, at least in a state of imperfection, not shared by the other branches of physiology. We shall at present confine ourselves to the determination of the functions of the anterior part of the cerebrum: the researches which I have made as to the use of the posterior, will form the subject of another memoir. The details of the 12th, 13th, 14th and 15th experiments may be gathered from those which follow. The 16th experiment consisted in the entire removal of the cerebral lobes from one pigeon; the removal of the cortical substance from the convex

surface of the brain of a second ; and the removal of the anterior part of the central hemispheres of a third. In the first the operation was performed gradually, one lobe being first removed. In this stage it preserved all its intelligence, not recognising objects, however, when presented to the eye, on the side opposite to that of the destroyed lobe. After partially removing the other lobe, it walked about extending its wings, but without any design ; both being completely removed, it remained motionless. It continued in the attitude of sleep, and made no rational movement, but when disturbed, as by placing it in an inconvenient position, it made automatic efforts to disengage itself and resume its ordinary attitude. It did not digest, and frequently attempted to vomit ; it perfectly regulated the various motions of which the act of vomiting consists : it displays no intelligence : it opens its eyes and shakes itself when disturbed : it neither eats nor drinks. On examining the head after death, it was found that the whole of the cerebral lobes, with the exception of a thin shred, had been subtracted. It is evident that this pigeon had lost, with the cerebral lobes, the faculty of recognising external objects and the other intellectual powers which originate in this knowledge ; that it at the same time performed many simple and compound motions which do not depend on any such knowledge, and displaying no determined end or motive : we ought consequently to conclude, that the brain is the seat of the different intellectual powers concerned in the knowledge of external objects, and that from it emanate those acts of volition necessary to the gratification of those wants and desires which are excited by these objects. The phenomena exhibited by the other pigeons will be sufficiently explained by the following observations : We perceive from this comparative experiment, that the ablation of the cortical substance of the convex surface of the brain produces very nearly the same symptoms as the subtraction of the whole of the lobes. The one partially mutilated was, however, more restless than the other. The removal of the anterior part of the brain alone causes a less profound stupor. The pigeon mutilated in this manner, walks about, avoiding the obstacles it encounters in its way, avoids falling when placed upon elevated objects, and draws back, for instance, when it arrives at the edge of a table ; but it has lost all power of distinguishing the surrounding objects,—it knows not how to seek its food ; it does not eat of its own accord : it is in a state of perfect idiocy.

“ *Experiment XVII.*—A hen was deprived of the anterior part of the brain : the phenomena exhibited were precisely the same as in former instances, with the following more striking particulars : it did not recognise another hen, formerly its companion, nor follow it as before the operation ; it frequently lost its equilibrium, and fell from its perch ; it walked, but without

object, and destitute of its former cunning; it did not avoid those who approached to seize it, although it cried and struggled when seized; it fled when it was struck; it did not follow the flock of fowls to which it belonged, and when attacked by another hen, did not comprehend the signs of anger she displayed, but neither fled nor defended itself: it sought for corners, and tried to escape by every opening that offered. On one occasion it rained violently: it sought shelter, and when it found a place where the rain did not reach it, it remained there; but it was accident and not intellect that conducted it: it did not, *a priori*, know that this place was sheltered, for, before going there, it frequently took refuge where the rain fell in torrents. What proves that it did not distinguish between external objects is, that entering the kitchen, it approached the fire, advanced upon the hot irons, and did not retire until severely burnt. It continually traversed the same space, following closely the circuit of the walls of the court; sometimes running as if deranged; stopping, again beginning to run, but without any other cause or motive than the instinct of moving and change of place. When pursued, or struck with a handkerchief, it fled, but no longer avoided what might obstruct its progress. Placed on a table, it advances to the edge—stops, retires—returns—and at last descends, rather by a kind of fall than a true leap. It seems, from these facts, that it preserved some feeble knowledge of distances, the height of objects, &c. But, at the same time, it did not recognise external objects; we might have exposed it to various dangers without alarming it: it would not have felt dismay if placed beside a fox. It died in consequence of another experiment.

Experiment XVIII.—March 8th, I forced a thick gimlet into each of the anterior lobes of the brain of a young dog, about two months old, and very intelligent. In withdrawing the instrument I carried with it, on one side, a small portion of cerebral substance; this gave rise to considerable hæmorrhage. The animal walked immediately after the experiment, but soon lay down as if to sleep. At the end of an hour it ate and walked.—9th, It eats, walks, and even plays with another dog.—10th, I forced a burning iron into each anterior lobe, and removed a small portion of cerebral substance that lay adjoining the openings made in the cranium: the animal remained for a moment as if dead, but soon roused itself and uttered plaintive cries: its head turns to one side, and retains that position as if spasmodically; there succeeded a comatose lethargy, accompanied by plaintive cries.—11th, Respiration stertorous: a gangrenous necrosis has escaped: the head is turned forcibly to the right, and returns mechanically to this position when displaced:

the animal cannot hold itself up: placed on its back it struggles with its feet, but in vain attempts to get up: it cries less than yesterday, is still in a comatose state, and gives no sign of intelligence.—12th, Nearly in the same state, it barks when irritated, when I, for example, pour chloride of soda on its head to clean the wounds: it is very sensible of the smell of this liquid, and in some degree resists its effects by strong expirations and sneezing.—13th, the respiration is more and more laborious; it resembles that of an animal affected with peripneumony. It shakes its head when water is poured on it, tries to rise but cannot; all its motions seem automatic, independent of all intellect and reflection: it barks occasionally, although still plunged in the same comatose state.—14th, If we attempt to raise it, its legs cross each other, and cannot support it, the left appears most feeble; nevertheless, on pinching them, it draws them back and expresses its pain by cries more or less acute according to the violence of the injury. It recognises no object, not even its aliments: it sees notwithstanding, and hears, and even appears to turn its head mechanically towards the person who calls it: it swallows milk when poured into its throat, but never seeks to drink spontaneously. A piece of flesh being placed in its mouth, it made some attempts at mastication, but soon discontinued these and retained the meat between its teeth, without attempting to swallow it.—15th, The head is more moveable, less inclined to the right: it cannot walk nor stand: respiration very laborious: it exhibited no power of recognising external objects; cried or groaned continually, and died in the evening.—It would be difficult to determine, in this case, what were the intellectual powers exclusively injured. We may, nevertheless, advance it as a fact almost established, that this injury consists principally in the loss of the power of understanding, or attaching ideas to certain external signs, and in the loss of memory of places and persons.

“ In the 19th experiment, the anterior part of the brain of a dog was transfixed by a gimlet: it lived for about sixteen days, and exhibited precisely the same manifestations as the other animals subjected to the same injury.

Experiment XX.—On the morning of the 28th June, I transfixed the anterior part of the brain of a young dog, which possessed the reputation of being lively, docile, and intelligent; the instrument, in making its way from the right to the left side, inclined slightly in an oblique direction upwards and backwards. Immediately after the operation the animal struggled, cried, fell, and could not raise itself. It continued to hear and see: at the end, however, of some minutes it presented all the symptoms of cerebral compression, arising very probably from the internal hæmorrhage produced by the operation.—June 29,

ty of the lateral ventricles, by a canal, larger on the right than on the left side, capable of containing the first joint of the finger, having its internal parietes yellow, polished, cicatrized, and more compact than the rest of the cerebral substance. The rest of the brain, cerebellum and medulla oblongata was healthy.

" This experiment is well worth our attention. Let us pass over the phenomena which appeared during the first days, and analyze only those observed after the animal had completely recovered from the consequences of the wounds inflicted. We found, on examining the body, that there remained of these wounds solely a canal traversing the anterior part of the brain ; it is to this the only existing lesion that the impairment of the intellectual powers is to be attributed. Every one who saw this dog perceived this derangement, and regarded it as imbecile. It, however, enjoyed the use of the external senses, and the powers of motion ; it recognised various external objects ; eat and drank ; even watched the rabbits, and run away when it saw that it was caught in the act. In what, then, did this impairment of intellect consist ? The memory of the animal was less faithful than in the natural state ; it scarcely understood us when we called on it ; it no longer played with or caressed other dogs ; it had a stupid and astonished air : all the corrections inflicted to compel it to remain in one place were unavailing if the place did not please it ; it no longer understood their meaning ; its want of docility was extreme. It was in respect to the individuals of its own species what many idiots and imbeciles are to man—they exercise their senses, exhibit the desires necessary for the preservation of life, pronounce certain phrases, but are incapable of any complicated intellectual combination. I have made many experiments similar to the one now detailed, but the subjects of them died too soon to allow me to draw any clear and definite conclusions.

" Part III.—Abstract of the general phenomena observed in animals, from which the anterior or frontal part of the brain has been removed.

" If we remove these parts of the brain, the animal is immediately deprived of a certain number of intellectual powers. It, however, continues to preserve certain powers that are possessed by intelligent beings only. It, without doubt, still possesses the external senses. This fact is so much the more worthy of attention that the animal is, at the same time, deprived of the ideas which it has previously acquired by means of these senses ; ideas which are, so to speak, the production of the external senses and the intellectual powers. This fact likewise triumphantly refutes the opinion, still entertained by some, that sen-

sation and intellect are one and the same function. It is difficult to imagine how any one can continue to defend such a paradox, when it has been shown by direct experiment, that sensation exists in animals that have altogether lost the power of reasoning, and presented the most incontestible marks of perfect idiocy. Animals, from which the anterior part of the brain has been removed, feel, see, hear, smell; are easily alarmed, become angry when disturbed, appear astonished at their situation, perform a number of instinctive and spontaneous motions, cry, walk mechanically, seek to avoid objects which irritate them, but they no longer recognise the individuals by whom they are surrounded, no longer eat, or perform any action which announces a combination of ideas, or intelligence; the most docile intelligent animals, dogs for example, no longer caress; they no longer understand the language of kindness or displeasure, become indifferent to menaces or caresses, bark irresistibly when disturbed, and do not profit by any correction. They have lost irremediably all educability, the memory of places, things, and persons. We never see them engage in any act intended to make external objects serve for the gratification of any desire. They see these objects, it is true, but they are ignorant of the relation which they bear to them; they no longer distinguish their qualities as useful or hurtful. When, in place of removing the anterior part of the brain altogether, we injure a part of it only, a less extensive lesion of the intellectual powers ensues. Some animals preserve the power of eating when food is offered to them; but birds, when mutilated in this manner, do not eat, and drink only when their bill is plunged into water, by an instinct similar, no doubt, to that which leads the young of the mammalia to suck immediately after their birth. We have seen a pigeon profoundly idiotic preserve the instinct of self-defence; but the preservation of this faculty only afforded a new proof of the idiocy of the animal, as it gave blows with its beak indiscriminately to every surrounding object. There is another phenomenon which we ought not to pass over in silence: animals which, in every other respect, present proofs of the most profound stupidity, still preserve the power of avoiding such obstacles as may obstruct them. Again, animals that no longer recognise their food, that have no recollection whatever of places or persons, if placed on an elevated object, a table or house-top, for instance, and compelled to walk, stop whenever they come to the edge, look down, turn with the view of going in an opposite direction, and throw themselves upon the earth only when forced to do so. This circumstance shows that the animals in question have ideas of height, distance, &c. since they turn away when exposed to the danger of falling; they are, notwithstanding, so imbecile as not to know how to eat or drink, not to recognise their most inveterate ene-

ty of the lateral ventricles, by a canal, larger on the right than on the left side, capable of containing the first joint of the finger, having its internal parietes yellow, polished, cicatrized, and more compact than the rest of the cerebral substance. The rest of the brain, cerebellum and medulla oblongata was healthy.

" This experiment is well worth our attention. Let us pass over the phenomena which appeared during the first days, and analyze only those observed after the animal had completely recovered from the consequences of the wounds inflicted. We found, on examining the body, that there remained of these wounds solely a canal traversing the anterior part of the brain; it is to this the only existing lesion that the impairment of the intellectual powers is to be attributed. Every one who saw this dog perceived this derangement, and regarded it as imbecile. It, however, enjoyed the use of the external senses, and the powers of motion; it recognised various external objects; eat and drank; even watched the rabbits, and run away when it saw that it was caught in the act. In what, then, did this impairment of intellect consist? The memory of the animal was less faithful than in the natural state; it scarcely understood us when we called on it; it no longer played with or caressed other dogs; it had a stupid and astonished air: all the corrections inflicted to compel it to remain in one place were unavailing if the place did not please it; it no longer understood their meaning; its want of docility was extreme. It was in respect to the individuals of its own species what many idiots and imbeciles are to man—they exercise their senses, exhibit the desires necessary for the preservation of life, pronounce certain phrases, but are incapable of any complicated intellectual combination. I have made many experiments similar to the one now detailed, but the subjects of them died too soon to allow me to draw any clear and definite conclusions.

" Part III.—Abstract of the general phenomena observed in animals, from which the anterior or frontal part of the brain has been removed.

" If we remove these parts of the brain, the animal is immediately deprived of a certain number of intellectual powers. It, however, continues to preserve certain powers that are possessed by intelligent beings only. It, without doubt, still possesses the external senses. This fact is so much the more worthy of attention that the animal is, at the same time, deprived of the ideas which it has previously produced by means of its senses; ideas which are, so to speak, the product of the external senses and the intellectual powers. This is a triumphant refutation of the opinion that certain ideas are innate.

sation and intellect are one and the same function. It is difficult to imagine how any one can continue to defend such a paradox, when it has been shown by direct experiment, that sensation exists in animals that have altogether lost the power of reasoning, and presented the most incontestible marks of perfect idiocy. Animals, from which the anterior part of the brain has been removed, feel, see, hear, smell; are easily alarmed, become angry when disturbed, appear astonished at their situation, perform a number of instinctive and spontaneous motions, cry, walk mechanically, seek to avoid objects which irritate them, but they no longer recognise the individuals by whom they are surrounded, no longer eat, or perform any action which announces a combination of ideas, or intelligence; the most docile intelligent animals, dogs for example, no longer caress; they no longer understand the language of kindness or displeasure, become indifferent to menaces or caresses, bark irresistibly when disturbed, and do not profit by any correction. They have lost irremediably all educability, the memory of places, things, and persons. We never see them engage in any act intended to make external objects serve for the gratification of any desire. They see these objects, it is true, but they are ignorant of the relation which they bear to them; they no longer distinguish their qualities as useful or hurtful. When, in place of removing the anterior part of the brain altogether, we injure a part of it only, a less extensive lesion of the intellectual powers ensues. Some animals preserve the power of eating when food is offered to them; but birds, when mutilated in this manner, do not eat, and drink only when their bill is plunged into water, by an instinct similar, no doubt, to that which leads the young of the mammalia to suck immediately after their birth. We have seen a pigeon profoundly idiotic-preserve the instinct of self-defence; but the preservation of this faculty only afforded a new proof of the idiocy of the animal, as it gave blows with its beak indiscriminately to every surrounding object. There is another phenomenon which we ought not to pass over in silence: animals which, in every other respect, present proofs of the most profound stupidity, still preserve the power of avoiding such obstacles as may obstruct them. Again, animals that no longer recognise their food, that have no recollection whatever of places or persons, if placed on an elevated object, a table or house-top, for instance, and compelled to walk, stop whenever they come to the edge, look down, turn with the view of going in an opposite direction, and throw themselves upon the earth only when forced to do so. This circumstance shows that the animals in question have ideas of height, distance, &c. since they turn away when exposed to the danger of falling; they are, notwithstanding, so imbecile as not to know how to eat or drink, not to recognise their most inveterate ene-

mies, &c. It is likewise evident, that it is not sufficient to possess the external senses to be intelligent. An animal that perceives an object destined for its food, perceives it not merely as a visible object, but recognises it as endowed with qualities of which it can make use. The idea, the knowledge of food, or of the alimentary quality, is in some degree a notion superadded to the visible qualities of an object; and this idea, this relation, is no longer perceived by the animal, when deprived of the anterior part of the brain, and possessing only the organs of the external senses. The faculty of discovering these relations is truly an intellectual power, and differs essentially from the functions of the senses. Our experiments, then, in accordance with reason, will not permit us to regard as identical, the functions of the organs of sense and the intellectual powers; they, at the same time, prevent us from admitting that the latter are the result of a single faculty. We shall very soon see that the subtraction of the posterior part of the brain does not produce the same phenomena as that of the anterior or frontal. Besides, what we have stated respecting the difference of their intellectual powers and their organs is perfectly applicable to the senses and their instruments; and to speak of the latter, what relation of identity exists between vision, hearing, touch, taste, and smell? Every one is acquainted with the beautiful experiments of M. Magendie upon the difference which subsists between the properties of the sensitive nerves. What is exceedingly worthy of remark, and at the same time proves the difference which exists between the sensations, is the fact, that of the five senses, touch alone is simple, while the four others are, so to express it, a compound of this sense of touch and the special sense. No one can in fact be ignorant that, by means of the filaments which they receive from the fifth pair, the organs of vision, hearing, smell, and taste are endowed with a true sense of touch, an exquisite sensibility analogous to that of the skin. Hence the organs of the senses in question may still be organs of sensation when deprived of the special sense of which they are the instrument. It is here necessary to recollect how very unphilosophical it would be, on the part of the physiologists, to follow, in studying the functions of which the brain is the seat, the steps of the metaphysicians, who regard them as the effects of one simple cause. I do not wish to condemn the method of the metaphysicians; I only desire to state, that it is not suited to the investigations of the true physiologist. The search for *uniformity*, *identity*, and *unity*, in intellectual philosophy, and in most other sciences, is as vain and fruitless as that for the *philosopher's stone* and *elementary fibre* which amused our forefathers. Nature, which delights in contradicting us, and laughs at our systems, shows us differences by the side of analogies, separates what we unite, and *indivi-*

dualizes, so to say, with the same facility that we classify and generalize. Far be it from us to condemn the labour of those distinguished individuals, who arrange facts according to their true affinities, as naturalists classify bodies according to their common characters; it is the employment of true genius. Those systems alone appear to us deserving of blame which are founded on false analogies, false relations, and false identities. We conceive, that in the first rank of such systems ought to be placed the doctrines of the *ideologists*, who have attempted to explain by *sensation* alone those various processes which take place in the centre of the encephalic system of the animals highest in the scale of intellect. This doctrine, incapable of bearing physiological examination, opposed to our ideas of pathology, and contradicted by the facts of natural history, is a remarkable example of the errors into which the most elevated minds may fall when not sufficiently guided by the light of experiment and observation.

“ We may conclude, then, from the facts we have adduced :—

“ I. That the cerebral lobes are not the seat of all the sensations, perhaps of none : we speak here of the internal senses ; that at least various portions of these lobes may be destroyed and disorganized without these senses being annihilated.

“ II. That sensation and the intellectual powers, properly so called, are essentially distinct, although they concur to a common end.

“ III. That it is doubtful whether the cerebral lobes be the sole seat of all the instincts and volitions.

“ IV. That the anterior or frontal part of the brain is the seat of many of the intellectual powers ; that its subtraction produces a state of idiocy, the characteristic of which is the loss of the power of distinguishing external objects ; an idiocy co-existing with the exercise of the external senses.

“ M. Magendie subjoins the following note : ‘ This will be a suitable opportunity of recalling the facts we have published to prove, that in the anterior part of the brain resides the faculty of language, of creating signs to represent our ideas and affections ; a faculty which constitutes one of the most sublime characteristics of our species.’ ”

We wish it to be distinctly understood, that, in submitting the foregoing translation of M. Bouillaud's paper to the public, we are not to be regarded as approving of all the observations he has made, or as coinciding in all the conclusions he has drawn. We reserve our opinion both as to the manner in which the investigations were conducted, the accuracy of the reasoning to which they have given rise, and to the authority to

be attached to evidence obtained by means of Destructive Anatomy, until the publication of his farther researches shall put it in our power to place the subject in all its details before our readers. In the mean time, these experiments are interesting, in so far as they show the direction which experimental physiology has taken on the Continent; but they are much more deserving of attention, as recording the fact that two hostile sects of physiologists, while entertaining opposite opinions, and pursuing methods of inquiry widely different, have arrived at precisely the same conclusions.

ARTICLE V.

HINTS ON EDUCATION.

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

SIR,

I AM one of those who believe that education is a subject on which Phrenology has thrown, and is destined yet to throw, a degree of light of which the present generation is incompetent to form any adequate idea. I have read with much interest the articles on that subject which have from time to time appeared in your Journal, and cannot doubt that the sound *practical* philosophy contained in them will at no distant day be duly appreciated. One or two ideas have occurred to me on the subject, which I take the liberty of communicating to you, in the hope that they may not be found entirely devoid of interest and utility.

And, *first*, it appears to me that the manner in which our schoolmasters attempt to communicate to children a knowledge of weights and measures is eminently absurd. This is commonly done by causing them to commit to memory certain dry tables, to be found in treatises on arithmetic; but which tables, learned by pure rote, are generally forgotten as soon as the children are taken from school. Independently, however, of this, it seems to require no great penetration to discover, that a boy may know that a pound of sugar contains sixteen ounces, and that a ton is composed of twenty hundredweights; that two pints of ale are equal to a quart, and four quarts to a gallon; or that forty poles amount to a furlong, and eight furlongs to a mile; and that nevertheless he may be entirely ignorant of the weight of an ounce and a pound, of the capacity of a pint and a gallon, and of the length of a furlong and a mile. This I



know from my own experience,—having learned the tables at school, thereafter forgotten them with all convenient celerity,—and being now unable, with any degree of accuracy, either to tell the proportions which weights and measures bear among themselves; to estimate the weight and capacity of solids and fluids; or to guess the number of acres contained in a given field, or how many yards one of its extremities may be from the other. Many individuals are in the same predicament.

It is laid down by Dr Spurzheim, that every intellectual faculty ought to be exercised on its appropriate objects. “Who would pretend,” he asks, “to cultivate the musical talent only by reading discourses about the principles of melody and harmony? Is it not necessary for this purpose to perform tunes, or to hear them performed by others, either in singing or in playing on a musical instrument?”

It appears to me that the proper and rational method of teaching a knowledge of weights and measures would be, to familiarize children with the relative distances of known objects; to exercise their ingenuity in discovering the space between bodies of whose distances they have not been made aware; to cause them to walk over and minutely examine ground on which poles, furlongs, and miles are marked out; to allow them to handle, weigh, and measure bodies of various descriptions; to make them familiar with vessels having the capacity of gallons, pints, &c., and to employ their perceptive faculties in many similar exercises, which would readily suggest themselves to the mind of the intelligent teacher. Instead of being a profitless and irksome task, like the table-learning of the present system, this, I am convinced, would be a pleasing and useful employment, and would produce a lasting impression on their minds.

The other subject to which I shall at present advert, is the common method of teaching a knowledge of the signification of words. In many schools this knowledge is neglected altogether, and the children are taught only to know what words are represented by certain combinations of letters. In other instances, however, an attempt is made to inform them what ideas are signified by particular words. But how is this done? Dictionaries, containing little more than mere synonyms, or vague and unintelligible explanations, are put into their hands, and they are enlightened by finding, that a *Harp*, for example, means “a lyre,” “*Art*, science,” “*Liver*, one of the entrails,” *Plough*, an instrument of husbandry,” *Presbyterian*, a follower of Calvin,” “*Stomach*, the ventricle of digestion,” “*Vertical*, placed in the zenith,” and “*Pump*, a water-engine!” Now, I would ask, what definite idea, or indeed what idea at all, can an inexperienced child, ignorant of the world, and of almost all that it contains, gather from such attempts at explanation as these?

Instead of mocking him by gravely stating that a "pump is a water-engine," I would propose to give him an *idea* of that machine by presenting one to his senses; by explaining its construction, uses, and modes of action, and by shewing it in actual operation. This address to his intellectual faculties would impress the notion of a *pump* so deeply on his mind, that it would probably never be effaced. It would be ludicrous to expect the same result from telling a child that a pump is a water-engine! Yet such is the popular method of teaching ideas in this our *enlightened* age! Yours, &c.

A REFORMER.

ARTICLE VI.

ON THE CHARACTER OF HUMPHREY PLANTAGENET, DUKE OF GLOUCESTER, AS COMPARED WITH THE CONFIGURATION OF HIS SKULL. A Paper read before THE LONDON PHRENOLOGICAL SOCIETY, November 15. 1830.

[NOTE. We insert this paper with pleasure, but regret that the account given of the skull, its size, and indications, is not more minute, particularly as we have no cast to which reference can be made. Perhaps the author will favour us with farther details.—EDITOR.]

AMONG the various advantages to be derived from the science of Phrenology, that of its application to the study of history, appears to us one of not the least importance. The opinions and misstatements of authors respecting the characters of those who have already played their parts on that vast theatre the world, are too numerous to be overlooked. For proof of this, we need only adduce one single instance in the history of our own country—that of the tyrant Richard III., whose real character and actions, biography, and we may add romance, have been so involved in obscurity, as to render certainty on any point of difficult attainment. It is for us of the nineteenth century, however, to set at rest some of these discrepancies. It has been left for Phrenology, a science which has now for above forty years withstood the ridicule of prejudice and scepticism, to establish (wherever the means are presented) the degree of dependence to be placed upon the assertions of the historian; and that with an accuracy hardly to be credited.—But to the subject more immediately before us.

Through the kindness of our President*, we have been enabled this evening to lay upon the table a cast of the skull of Humphrey, Duke of Gloucester, one of the most celebrated of the princes of the Lancastrian race. It is taken from the origi-

* Edward Wright, M. D.

nal discovered in the year 1701, in his tomb, behind the altar, at the Abbey Church of St Albans, and, agreeable to our belief, unique, as the permission to mould it was granted solely upon that understanding. In illustration of this cast, it is our intention to lay before the Society a brief outline of the life of that singular individual, introducing such facts as may tend to confirm his cerebral organization; but if, in so doing, we should be found too tedious or prolix in historical detail, we trust that the subject, as it is one of peculiar interest to ourselves, may plead a sufficient excuse. The cast will probably be recognised by some of our older members as having been exhibited to the Society about three years since, at which time, however, a few remarks only were made upon the organization.

Humphrey Plantagenet, it will be remembered, was the fourth son of Henry IV. by his first wife Mary de Bohun. He was created Earl of Pembroke and Duke of Gloucester, by his brother Henry V., who, on his deathbed, appointed him Regent of England, in conjunction with his elder brother John, Duke of Bedford, as Regent of France, during the minority of their nephew Henry VI., then only nine months old. The Parliament, however, which met at Westminster shortly after the death of Henry, where the Duke of Gloucester represented the king by commission, disliking the name of regent, as a title implying too much authority, set aside the verbal nomination of Henry V., and appointed the Duke of Bedford, he being heir-apparent, protector or guardian of the kingdom, or, as the original instrument set it forth, "*Regni nostri Angliæ et Ecclesiæ Anglicanæ Protector et Defensor, ac principalis consiliarius noster*;" at the same time investing Humphrey with the like title and dignity during his brother's absence from England, with a salary of three thousand merks a-year. The Parliament, furthermore, limited the power of the protector, constituted a council, whose advice and approbation he was on all occasions to consult. This office, the residence of the Duke of Bedford in France contributed entirely to throw into the hands of Gloucester.

Shortly after the accession of his nephew Henry VI. to the throne, an event occurred that cast a blot upon the character of Gloucester, not to be effaced from the minds even of his warmest admirers; we allude to his marriage with Jacqueline, Countess of Hainault, wife of John, Duke of Brabant, cousin-german to the Duke of Burgundy. Jacqueline was a woman of masculine spirit, which, joined to a sanguine temperament and passions naturally strong, was ill suited for the consort of Brabant, a youth not only weak and sickly in constitution, but of much imbecility of mind. Disgusted with her husband, she fled to England, throwing herself upon the protection of Humphrey of

Gloucester, who, with that impetuosity of temper and vehemence of passion that ever marked his career, received, and, prompted as much perhaps by her splendid inheritance as by love, at length made her his wife, without even procuring a dispensation from the Pope for the annulment of her former marriage; an affair, says Hall, which "was not onely wondrous at of the comon people, but also detested of the nobilite, and abhorred by the clergie *."

This rash and criminal action highly incensed his brother of Bedford, who, nevertheless, kept his anger within bounds, so long as the Duke of Brabant was left in peaceable possession of his wife's dominions. Forbearance, however, in such a character, could be of no long duration; he soon set about making himself master of Hainault, and for that purpose landed with an army at Calais, a few weeks after the battle of Verneuil. A sharp war betwixt him and the Duke of Burgundy, who had in consequence withdrawn his alliance from England, was the result of this proceeding, Burgundy siding with the Duke of Brabant, and marching instantly to his support. The quarrel soon assumed a personal as well as political character, and a challenge to single combat from the Duke of Burgundy was accepted by Gloucester. This encounter, however, was prevented by the Duke of Bedford, who went so far as to procure a bull from the Pope, which not only annulled the contract between Gloucester and Jacqueline, but also declared, that even in case of Brabant's death, it should never be lawful for her to espouse the English prince†. Disappointed in his designs upon Jacqueline, Humphrey afterwards married Eleanor, the daughter of Reginald, Lord Cobham, a woman of exquisite beauty but indifferent character, and who had previously lived with him as his mistress. This marriage was as unpopular as the other had been criminal and impolitic, and was regarded, says the historian, by the noblemen of that proud period, as quite incongruous with the blood he had sprung from ‡. The connexion proved likewise in the end quite as disastrous to the happiness of the Protector. The Duchess was accused of witchcraft, and charged with high treason; it being pretended that she and her associates, Sir Roger Bolingbroke and one Margery Jordan of Eye, melted a waxen image of the King before a slow fire, with the intention of causing a corresponding decay, by the like insensible degrees, in the person and vigour of his majesty. She was brought to trial, and condemned to perform public penance for three days, and afterwards to suffer perpetual banishment in the Isle of Man. These violent proceedings were ascribed solely to the malice of the Duke's enemies,—a point unnecessary for us now

* "Chronicle," fol. 84.

† Monstrelet, v. li. p. 469.

‡ Idem.

to dwell upon, and which has already been so beautifully handled by Shakspeare.

In order more fully to illustrate the character of Humphrey, it will be necessary to say a word or two concerning another important personage of that period,—Cardinal Beaufort, Bishop of Winchester, and tutor to the young King, between whom and the Protector disputes were continually occurring. The Cardinal, a man of great mental capacity and experience, was of a haughty, intriguing, and dangerous character, continually aiming at power, and with whom the Duke's impetuosity of temper rendered it difficult for him to cope. We all remember the language put into the mouth of Gloucester by Shakspeare, when Beaufort refuses him admission to the tower:—

Win. "How now, ambitious Humphrey? what means this?"

Glo. Piel'd priest, dost thou command me to be shut out?"

Win. I do, thou most usurping proditor,
And not protector of the king or realm.

Glo. Stand back, thou manifest conspirator;
Thou, that contriv'dst to murder our dead lord;
Thou that giv'st whores indulgences to sin:
I'll canvass thee in thy broad cardinal's hat,
If thou proceed in this thy insolence.

Win. Nay, stand thou back, I will not budge a foot;
This be Damascus, be thou cursed Cain,
To slay thy brother Abel if thou wilt.

Glo. I will not slay thee, but I'll drive thee back;
Thy scarlet robes, as a child's bearing cloth
I'll use to carry thee out of this place.

Win. Do what thou dars't; I'll beard thee to thy face.

Glo. What? am I dar'd and bearded to my face?—
Draw, men, for all this privileged place;
Blue-coats to tawny-coats, Priest, beware your beard.
(Gloucester and his men attack the Bishop.)

I mean to tug it, and to cuff you soundly;
Under my feet I stamp thy cardinal's hat;
In spite of pope, or dignities of church,
Here by the cheeks I'll drag them up and down"*.

This is exactly the language we could imagine to be made use of by the man, a cast of whose head is now before us, when led away by his feelings, which was but too often the case with Gloucester.

Tenacious of his own opinions, the Protector was inclined to treat with haughtiness and contempt those of his associates in the council. This conduct did not fail to exasperate the proud

spirit of the Cardinal, and to create enemies in the most powerful of his colleagues, among whom were the Dukes of Suffolk, Somerset, and Buckingham, who united together to affect the overthrow of Humphrey, then a powerful rival, and not the less dangerous, from having become, by the death of Bedford, heir-apparent to the throne. The opposition also of Gloucester to the marriage of Henry with Margaret of Anjou, created him another enemy, and thus gave an active coadjutor to the above mentioned nobleman in the person of the Queen herself. The first step towards the accomplishment of their intention was manifested in certain accusations against himself and his administration of affairs, which they summoned him to answer before the King and Council. The principal charge brought against him was, that being the principal governor of the nation during the minority of the King, he had, to his Majesty's great dishonour, and the injury of his subjects, caused several persons to be put to death, contrary to the laws of the land; and when any person had been deservedly doomed to suffer capital punishment on account of their crimes, he, out of the cruelty of his disposition, ordered them to suffer other deaths than the laws assigned, shewing thereby that he was unjust even in the execution of justice; and that whereas he ought most strictly to have observed the laws, he was himself the greatest breaker of them. To these illiberal charges the Duke listened with a patience and fearlessness that produced strong conviction of his innocence in the minds of the Council, whilst his answers, clear, satisfactory, and delivered with all the glowing eloquence of his character, so strongly substantiated that innocence, as not only produced for him an honourable acquittal, but endeared him yet more to the people at large.

Thus defeated in their designs upon the life of the Duke of Gloucester, whom they had now but too just a reason to fear, on account of his resentment and daily increasing popularity, the Queen, the Cardinal, and their adherents, found a new, and eventually more secure plan for ridding themselves of so formidable an adversary. With this view a Parliament was summoned, not to meet, as usual, in London, but at St Edmondsbury, whither Humphrey, unsuspecting of danger, came with a small retinue from his Castle of Devizes. On opening the Parliament, every thing was transacted in the usual form, but, on the second day, the Lord Beaumont, High Constable of England, attended by the Duke of Buckingham, Somerset, and several other peers of the Queen's party, arrested the Duke of Gloucester for high treason, seizing at the same time all his attendants, who, together with the Duke, were committed to different prisons, their adherents giving out that Humphrey had formed a conspiracy for putting to death his nephew, and pla-

cing himself on the throne, and to deliver his Duchess from confinement in the Isle of Man, and make her Queen of England. These charges were too ridiculous and improbable to deserve serious consideration, and were undoubtedly trumped up with a view of imposing upon the people, and preventing their interposition, for the slighter they deemed the charge against the "good Duke," they were the better content to rely on his own innocence and sagacity for his exculpation. A few days after his imprisonment, or, according to some historians, the very night after his committal, he was found dead in his bed; and the general belief is, that he was dispatched privately by his enemies, who, aware that they were unable to produce any evidence which could substantiate their charges, chose rather to be guilty of assassination than stand the risk of bringing him to a public trial. His body, however, which had no marks of violence upon it, was exposed to the view of the Parliament and the people, to persuade them that he had died a natural death. Still there are not wanting some modern historians who think that Humphrey's death arose from natural, and not violent causes, and it is certainly true that his friend Abbot Wethamstead * considers that his arrest and close custody threw him into a sickness which in a few days killed him. If, however, as has been justly observed, we recollect the temper of the times, the violence of party, and, above all, the character, rank, and power of the Duke's enemies, there seems but too much reason to fall in with the commonly received opinion, and to conclude that Humphrey Plantagenet died by the hand of treachery and violence.

With the feelings more than usually developed, Humphrey Duke of Gloucester did not want intellect, although he suffered his feelings frequently to preponderate beyond the bounds of moderation. He was a prince certainly the most learned and accomplished of his age. It is the belief of most of his biographers, that he received his education at the University of Oxford, and Bale informs us, that he studied in Baliol College, a society which may well be proud of having produced such a prince; "*excoluit, tum juvenis, tum etiam senex virtutem, et qui maxime,*" says Leland; who adds, "*hinc clarus domi militiaeque, et bonis omnibus gratissimus; amavit præter cætera politas literas, quibus etiam impendio invigilavit.*" Addicted to learning, he patronised men of talent and erudition; neither was his fame or patronage confined to this country, as we find him frequently noticed by the foreign *literati* of his day. Leonard Aretius dedicated to him a translation of Aristotle's Politics; Peter de Monte, a work on the differences of the virtues and the vices, in which he says,—"nothing seemed pleasant or

* Page 365.

acceptable to you without reading; nor did you delight only in one art or science, but almost in all, and read their manuscripts with great avidity." Lapis Cartellius dedicated to him his book on the Comparison of Study and Military Life, and Petrus Candidus a Latin version of Cato's Republic. Titus Livius, the biographer of Henry VI., was styled his poet and orator, as appears from the grant of denization to him as an Italian, in which he is termed "*poeta et oratori*"*, to our dearest uncle the Duke of Gloucester. Eneas Sylvius, afterwards Pope, in one of his Epistles†, loudly extols the Duke's "*studia humanitatis summo studio*," and further says, that he "*patronises poets wonderfully, and highly venerates orators.*" The Duke was likewise fond of astronomy, as appears from some tables, bearing his name, preserved in the Ashmolean and British Museums. Bale and some others affirm, that he was the author of an astronomical treatise, intituled "*Tabulæ Directionum*:" this, however, is not the case, although they were compiled at the instance of the Duke, and according to some tables which he constructed.

Liberal in the cause of learning, Duke Humphrey largely contributed towards the erection of the Divinity School at Oxford; indeed, such was his munificence on that occasion, that he has commonly been considered the founder of the building. It was, however, erected at the expense of several of the most eminent persons of the period, among whom was the Duke, but so far was he from being the sole founder of the school, that it was not completed until some time after his death, having remained in an unfinished state for nearly sixty years. He may, however, be justly considered to have been the founder of what is now termed the Bodleian Library, for, at the period that the library, which now forms the centre of Sir Thomas Bodley's building, was first erected, the Duke sent one hundred and twenty-nine treatises to be placed therein for the use of the University, a gift valued at that period at above one thousand pounds. He afterwards sent them one hundred and twenty-six volumes in 1440, adding nine others in the same year. In 1448, he again presented them with one hundred and nine, and shortly before his death, with one hundred and thirty-five more. Besides all these, which amounted in number to more than six hundred volumes, of divinity, medicine and general literature, a mass of learning, it has been observed, almost incredible to have been collected by an individual (when we remember the extreme difficulty and the immense expense attendant on such an acquisition at that period), the Duke promised the contents of his own private study, which was peculiarly rich in Latin authors, as well as one hundred pounds in money towards per-

* Rymer, v. x. p. 66.

† Ep. 64.

fecting the building ;—a gift, however, not recovered without much trouble after his decease. Of all these splendid and costly works, two volumes alone now remain in the Bodleian library ; these are a copy of Valerius Maximus, on vellum, written most probably at the express desire of the Duke, and the dedication copy of Leonard Aretius' translation of Aristotle's Politics ; all the others having been stolen or destroyed by the visitors of Edward VI.

The cerebral organization of Duke Humphrey denotes him to have been by no means deficient in personal courage,—a quality at that period held in the highest estimation, added to which he possessed consummate military skill. At the siege of Harfleur we find him holding a chief command. At the celebrated battle of Agincourt he received a dangerous wound, in recompence for which the castle and lordship of Llanstephon in Wales, a possession of considerable value, was bestowed upon him by his sovereign. In most of the military engagements of his brother Bedford in France, he bore a conspicuous part. He besieged the Castle of Tongue. At the siege of Alençon he pitched his tent in a situation of the greatest hazard, immediately under the walls of the castle. The town of Cherburgh, although its inhabitants offered a most obstinate resistance, he reduced in a few days ; and again, at the siege of Rouen, he was foremost, occupying a most important station, and exposed to the most imminent danger. Of this latter circumstance Leland, who quotes an old chronicle by Will. de Packington, says, “ then came the King agayne to Roone, and to hym cam the Duke of Gloucester from Chereburge, and lay nerer to Rone than any of the other by xl Roodes *”

Amidst the failings of the Duke of Gloucester, that of an inordinate attachment to sensual pleasures stands pre-eminent. Walsingham, his cotemporary, says, “ he excelled in knowledge and in personal beauty and gracefulness, but he was passionate, effeminate, and devoted to pleasure, which seemed to rob him of his many other virtues.” As a proof of his addiction to sensual pleasures, we may quote the authority of his physician, Gilbert Kymer, who, in his “ *Dietarum de Sanitatis Custodias*,” a work containing twenty-six chapters of medical advice, gives a curious account of the Duke's state of health, inferring how much he had injured himself by want of self-government. He describes him in his forty-fifth year, as having a rheumatic affection in the chest, with a daily morning cough. It mentions that his nerves had become debilitated by the vehemence of his laborious exercises, and from an immoderate frequency of pleasurable indulgences. It advises him to avoid north winds after a warm sun, sleep after dinner, exercise after society, frequent

* Collectanea, v. i. p. 489.

bathings, strong wine, much fruit, and the flesh of swine, and the weakening gratification to which he was addicted *. With these failings, Humphrey was of a liberal and generous disposition; he was daily accustomed to distribute alms † amongst the poor, and was so highly beloved by all ranks of the people, that he acquired the pleasing epithet of the "good Duke ‡."

We must not pass over the well-known anecdote of the Duke dramatised by Shakspeare, in the second part of King Henry VI., and mentioned by most of the historians of the period as a proof of Humphrey's incredulity. We shall quote the words of Sir Thomas More, as it would lose much of its interest by being deprived of the quaint style in which he narrates it.—
 "In Kynge Henry his dayes the syxte, came wyth hys wyfe to saynt Albons, a certayne begger, with hys wyfe, and there was walkynge about the towne beggyng a fyve or syxe dayes before the kynge's commynge thither, sayinge that he was borne blynde, and never sawe in his lyfe, and was warned in his dreame that he should come out of Berwike, where he sayd he had euer dwelled, to seke Saynt Albons, and that he had bene at his shrine, and was not holpen, and therefore he would go seeke him at some other place: for he had heard some saye sence he came, that Saint Albon's body should be at Colyn, and in dede such a contention had there bene. But, of truth,

* W. Wyrcester, edit. Hearne, p. 550.

† Whilst alluding to the subject of his almsgiving, it may not perhaps be deemed irrelevant to say a word or two on the now almost obsolete proverb of "*dining with Duke Humphrey*," at the same time that we shall correct an error into which Sharon Turner has fallen, when he says the phrase "implies the long sympathizing remembrance of the public of his fate." Mr Turner appears to have overlooked the explanation given by old Fuller in his "*Worthies*," which we shall take the liberty of quoting. "This proverb," he says, "has altered the original meaning thereof. For, first, it signified *alima vivere quadra*, to eat by the bounty, or feed by the favour, of another man. For Humphrey Duke of Gloucester (commonly called the good Duke) was so hospital, that every man of fashion, otherwise unprovided, was welcome to dine with him. It not being proper for strangers to sup in these days with the greatest housekeepers. The said Duke was so bountiful, that his alms-dish of silver, was very massive when empty (what then when full), which alms-dish came afterwards into the possession of the Duke of Somerset, who sent it to Lord Rivers, to sell the same to furnish him for a sea-voyage.

"But after the death of good Duke Humphrey, when many of his former alms-men were at a loss for a meal's meat, this proverb did alter its copy, to dine with Duke Humphrey importing to be dinnerlesse."

For further information on this subject, *vide* Brande's "*Popular Antiquities*," edit. Ellis. vol. ii. p. 670.—Hall, in his "*Virgidemarus*," b. iii. sat. 7., has the following verse:—

"Tis Ruffio: trow'st where he din'd to-day?
 In sooth I saw him sit with Duke Humphrey:
 Many good welcomes and much gratis cheere
 Keeps hee for everie stragling cavaliere."

‡ Fabian.

as I am certainly informed, he lyeth here at Saint Albones, sauing some 'reliques of him, which they there shew shryned. But to tell you foorth: when the king was come, and the towne full of people, sodainely this blind man at St Albone's shryne had his sight, and the same was solempnly rong for a miracle, and *Te Deum* songen, so that nothing was talked of in all the towne but this miracle. So happened it then that Duke Humphrey of Gloucester, a man no lesse wise then also were lerned, hauing great ioy to see suche a miracle, called the poore man vnto him, and first shewyng himselfe ioyous of God's glorie, so shewed in the getting of his sight, and exhorting him to meeknesse, and to no ascribyng of any part of the worship to himselfe, nor to be prowde of the people's praise, which would call him a good and godly man therby: at the last he looked well vpon his eien, and asked whether he could euer see any thing at al in all his life before? And when as well his wife as himself affirmed fastly, no, then he looked aduisedly vpon his eyen agayne, and sayde, I beleuee you very well, for me thinketh that ye can not see well yet. Yes, sir, quoth hee, I thanke God and his holy martir, I can see now as well as any man. Yea, can you? quod the Duke; what colour is my gowne? Then anone the beggar told him. What colour, quod he, is this man's gowne? he told him also without anye stayeng or stomblyng, and tolde the names of all the colours that coulede be shewed him. And when the duke saw that, he bade him walke Faytoure! and made him to be set openly in the stockes: for though he could have sene sodaynely by miracle the difference betwene dyuers coloures, yet could he not by sight sodainely tell the names of all these coloures, except he had knowne them before, no more than he could name all the men whome he should sodainely see*."

* Dyaloge, fol. xxv. Several poetical tracts have at various times been published, setting forth the life and acts of Duke Humphrey. In 1600, Charles Middleton published a tract intituled, "The Legend of Humphrey Duke of Glocester;" a reprint of which will be found in the Harleian Miscellany, vol. x. p. 164. In the "Mirror for Magistrates," edit. 1578, is "How Humphrey Plantagenet, Duke of Glocester, Protector of England during the minority of his nephew King Henry the Sixt, by practise of his enemies was brought to confusion," by George Ferrers, the occasional lord of misrule. Of all, perhaps the best is the panegyric written by the monk Lydgate, with which he prefaces his translation of Boccacio's "Fall of Princes," done at the desire of the Duke. A beautiful copy of this work, on vellum, will be found among the Sloane MSS. No. 4031, and from which the following verses are transcribed.

" ——— I dare eke of him telle,
And truly deeme that he doth excell
In understanding all other of his age;
And hath grete joy with clerkes to communc,
And no man is more expert of langage;

Having thus briefly, but imperfectly, mentioned the most striking points of the character of Duke Humphrey, it remains for us to say something concerning his cerebral organization, which we shall do in as few words as possible, the principal features being too obvious to every observer to need demonstration. The whole head is much above the average size, corresponding with his mental energy. The intellectual organs are exceedingly well developed; but the greatest proportional development is at the posterior-superior, the posterior-lateral, and the posterior parts. The organs of Amativeness, Love of Approbation, Self-esteem, and Combativeness, are all exceedingly large; but the organs of Destructiveness, Firmness, and Secretiveness are developed to a degree which is perhaps seldom observed.

ARTICLE VII.

THE DUNFERMLINE PHRENOLOGICAL SOCIETY.

[NOTE.—The following report of the Dunfermline Society reached us when our materials for the present Number were almost made up. We make room for it with pleasure, and return our best thanks to the Secretary both for it and his own letter. Want of room prevents our indulging in any remarks, except that it is gratifying to perceive the interest taken in the subject thus extending itself over the country. We wish our Dunfermline friends all success.—EDITOR.]

THE above Society was formed in December 1828, and has since then continued gradually to increase in numbers. It has now obtained a library, consisting of the most approved works on the science, with a considerable collection of crania, casts, and busts. The sessions commence the 3d Tuesday of October, and continue six months. Meetings are held every alter-

Stably in studi, al wey he doth contune
Settyng a syde chaunges of fortune,
And where he loveth, if I shall not tary,
Without cause full loth he is to vary.

Duck of Gloucester men this prince call,
And not w^t standing his astate and dignite,
His corage never doth appalle
To studie in bokes of antiquitie,
There in he hath so grete felicitie
Vertuously hiem self to occupye
Of vicious slouth to have the maistrie."

Vide also "Humphrey Duke of Gloucester," a tragedy, by Ambrose Philips, 8vo. Lond. 1723.

nate week. The general business of these meetings consists in hearing essays on subjects formerly approved of by the members, in discussions connected with the science, and in examination of the crania, &c.

During the past session, an essay was read by Mr John Beveridge on Amativeness, in which he took a view of it as exhibited in different stages of mental cultivation, and shewed by a variety of illustrations that in the savage state it is openly indulged in. In the civilized state, or that in which the passions and intellect are chiefly predominant, it acts in a more concealed though most debasing manner; and in the moral state, or when the mind acts in harmony with itself, it exerts its influence in promoting kindliness and urbanity between the sexes, and disposes them to take an active interest in promoting the welfare and happiness of each other, and tends to refine and elevate the character. An essay was read by Mr A. Stevenson on Philoprogenitiveness, wherein he considered, that, from the helplessness of infancy, and the harmony of nature, an *a priori* argument might be adduced for the existence of such a faculty; that many metaphysicians admit it; that the language of common observers in all civilized nations implies its existence; that it is innate, and manifested according to the degree in which the organ is developed; that it is apparently not manifested by the greater numbers of quadrupeds, the male of birds of prey, &c.; and that it must be guided by the intellectual and higher moral faculties. He also shewed the effects of parental example; and concluded by stating, that this faculty, when duly directed by intellect and sentiment, was a source of great enjoyment.

An essay was read by Mr J. Gall, on "The Advantages to be derived from the Study of Phrenology;" the object being to shew the importance of a knowledge of the true theory of mind; that without such a knowledge all systems and institutions relating to the science of Anthropology must prove defective; that Phrenology being once admitted, and acted on, as the philosophy of mind, would greatly elevate the character, and accelerate the progress, of human improvement. The three first parts of an essay on "A comparison between the New and Ancient Systems of Mental Philosophy," were read by the Secretary, in which was given a short analysis of the principal theories of mind supported by philosophers down to the time of Locke, the essayist pointing out as he proceeded, the agreement or discrepancy of each of those systems with that discovered by Dr Gall. Several parts are still wanting to complete this essay.

An essay, in two parts, was read by Mr John Macara, "On the National Poetry of the Scots;" in which he examined the peculiarities of the national character, traced and exhibited by illustrations the intimate connexion subsisting between them;

shewed the influence which chivalry exercised in prostituting poetic talent ; the effects of the latter in hastening the Reformation, by the power which satire exercised in exposing the voluptuous character of the priests, and the triumph which it gained over their influence. The writer then traced the modifications gradually produced in the poetry of the Scots by their religious belief, their patriotism, and their superstition.

An essay was read by Mr A. Stevenson, on the " Decalogue in relation to Phrenology," wherein he considered man in a state of innocence, acting under the harmonious influence of his social, moral or religious, and intellectual nature, the breaking up of which constituted his fall ; the necessity of some rule or law, whereby man might, after his fall, judge of his conduct ; this benevolently supplied in the Decalogue ; its adaptation to the nature of man, as unfolded by Phrenology ; the effects of idol-worship and selfishness on mankind ; and the necessity of a stated period for worship : That the second table of the Decalogue addresses such propensities as Phrenology points out to be most destructive to the best interests of man, when freely exercised, with " Thou shalt not" do so and so.

An essay was read by Mr John Hutton on " Memory ;" wherein he compared the theories held by the ancient and modern metaphysicians, who recognise memory as a distinct faculty, with that evinced by Phrenology, which acknowledges it to be a power belonging to every faculty. He also shewed, by examples, that different individuals may possess powerfully retentive memories, and still each be deficient in remembering what his neighbour easily recollects, which circumstance varies according to the particular development of the different organs of the individual.

Several conversations on various important subjects took place during the last session. One in particular interested us much ; and if any of your able correspondents could assist us in the solution of it, we should feel gratified by its insertion in your Journal : it was, What faculty or faculties in the dog give him a sense of property ?

The following theory of a case, recorded in the Phrenological Journal, was read by a member of the Dunfermline Phrenological Society, and the Society agreed to send it for insertion in your Journal.

There is in the Twentieth Number of the Phrenological Journal, Article X., a case recorded of an individual now nearly sixty years of age, " who has been deranged in his intellect since he was ten years old, from a frolic of one of his school-fellows, who seized him by the chin and back of the head, and swung him round a considerable time : when he was released from his grasp, he was found to be bereft of his reason, and has

continued so ever since." The writer of the article states, that his memory in particular is defective, and gives the following instances: "He will ask fifty times a day which day it is; and if he were intrusted to walk out alone two hundred yards from his dwelling, he would forget the way back to it. As a proof of this a relation of the family with whom he resides lives within that distance of his domicile; and when he goes there on a visit by himself, *although the house is within view of his own door, and that he actually resided in it himself for some years*, he is so conscious of his failing, that he runs all the way, knowing, if he tarried on the road, he could never find it out."

His memory of all that occurred to him, previous to the event which rendered him imbecile, is perfectly good. "He relates, with accuracy and humour, anecdotes of his childhood, and the little tricks he played upon his father, his school-boy pranks, up to the event that deprived him of his judgment; but beyond that, all is blank—he recollects nothing."

From the manner in which you introduced it, we were in hopes that some of your able correspondents would have attempted a solution of it; but as it seems to have passed from their view, we are induced to send you our theory of the case, with the hope that, if it is not satisfactory, it may lead to farther investigation.

It is as follows, viz.: That the accident had an effect upon the brain of the boy analogous to that which takes place in old age.

A few instances which have come under our observation, may tend to point out the similarity. An individual of a large and well-formed head, and active temperament, the inventor of several useful machines, at an advanced period of his life fell into dotage, and, on the death of his wife, went to Edinburgh to reside with a relative. Here he had a constant wish for news; and to gratify him, his relative put into his hand, half a dozen times each day, the same newspaper, and he never discovered that it was the same newspaper that he had read before, and the same paper generally served him a week, with several thorough perusals every day, and was read under the full conviction that it was newly published, and contained the latest intelligence, although it was sometimes several months old, and on some occasions more than a twelvemonth.

He could no more be trusted out by himself than a child. One day, he got out unobserved, and, after a search by his friends, he was found conversing with the soldiers at Holyrood Palace, relating the anecdotes of his youth, and stories he had heard when young of the Pretender, &c., but had entirely forgotten where his residence was.

He was well acquainted at one time of his life with the locali-

ties of Edinburgh, and yet several instances could be given of his being unable to find his place of residence when within sight of it, although Locality was largely developed, and at an earlier period of his life very active. His ideas of time were as much weakened as those of place; often mistaking morning for night, and *vice versa*. It was a rare occurrence to find him correct as to the day of the week, and months and years were beyond his comprehension. Yet the past periods of his life were fixed in his mind with great correctness, especially those of his youth. On one occasion, we attempted to rouse his mind to exertion, by asking various questions concerning a machine which had cost him years of attention to complete, and for which he took out a patent; but, after many ineffectual attempts to recollect the details of it, he shook his head, and said, "I am grown silly of mind—my judgment is gone."

Cases of the same import might be multiplied to any extent; but as they fall under the observation of every one, any farther instances would only serve to take up space in your valuable Journal. The very terms in which the unfortunate individual in Falkirk is spoken of, appear to us just such as would be applied to one whose brain had lost its tone from age, and to whom the events of recent date are listlessly attended to, though of mighty importance, and very soon forgot, while those of their green years are often narrated with tiresome garrulity. The points of resemblance between the individual in Falkirk and the foregoing, are so numerous and striking, as to render it unnecessary to point them out more particularly. Why the treatment of the boy should produce the effect stated, we do not pretend to explain; but the phenomena his mind exhibited lead us to the conclusion, that the state of his brain was by it rendered similar to what is exhibited in old age.

ARTICLE VIII.

CATALOGUE, NUMERICAL AND DESCRIPTIVE, OF HEADS OF MEN AND ANIMALS, WHICH COMPOSED THE COLLECTION MADE BY THE LATE DR GALL. Translated by Mons. A. A. ROYER, of the Jardin des Plantes, from the manuscript drawn up by M. le Dr Dauncey, the pupil and friend of Dr Gall.

(Concluded from No. XXVIII. p. 185.)

304. PATHOLOGICAL PIECE.—Frontal bone of a young man who died consumptive.

305. **FRONTAL BONE** of a hydrocephalous subject, aged nine years. He was remarkable for the great development of a Wormian bone, corresponding to the situation of the fontanelle.

306. **PATHOLOGICAL PIECE.**—Skull of a foetus imperfectly acephalous. Gall shewed that head, which he picked up at Vienna, and added, that the brain of that foetus was inclosed in a sort of bag, hanging from the occiput. The subject died in the birth.

307. **SKULL** of a subject completely acephalous.

308. **FŒTUS**, portion of the skull, with the vessels of the pericranium injected.

309. **BRAIN COVERED WITH ITS MEMBRANES.**—Copy in plaster, which was cast from the brain of an insane person who died in the Salpetriere, and who had the sentiment of Love of Offspring much exalted.

310. **BRAIN OF LECOUFFE**, the son, in plaster. (See No. 8.)

311. **BRAIN**, in plaster, stripped of its membranes, of a man of 40 years of age, an artizan, who died in an hospital in Paris. Gall made use of it to shew the ordinary organization of the brain of a sane man.

312. **BRAIN OF AN IMBECILE GIRL**, in plaster. No other information.

313. **BRAIN OF DE LILLE**, the poet, cast from nature, the right hemisphere. The convolution which Gall distinguishes as the organ of *Poetry*, is the largest in this hemisphere. Gall made a cast of this brain himself, in the presence of several physicians of Paris, who were by at the opening of the body of that man of letters.

314. **BRAIN**, in plaster, which wants a considerable portion of the posterior lobe of the right hemisphere.

315. **IDIOT**; imperfectly developed, cast of the brain.

316. **HORSE'S BRAIN**; a cast.

317. **OX'S BRAIN**; a cast.

318. **CALF'S BRAIN**; a cast.

319-20-21-22. **BRAINS**; cast of an ass's, a sheep's, a deer's, and a dog's.

323 and 324 have no pieces named.

325. **BREGUET**, a celebrated watchmaker; bust. It is an imitation which gives a good idea of the form of the head of that able mechanician. The organs of Constructiveness and Number are both largely developed, as are the organs of the intellectual faculties. Breguet was very circumspect, and the development indicates that disposition.

326. **Dr SPUEZHEIM**; cast in plaster, from nature.

327. **MADAME BARILLE**, a celebrated Italian actress and

singer ; bust from nature. The organs of Music and Mimicry are well developed.

328. ORANG OUTANG ; perfect imitation of the skull executed in wax, under Dr Gall's directions.

329. WAX PREPARATION of a brain, to shew the disposition of the lateral ventricles.

330. WAX PREPARATION of a brain, to shew the oval centre of Vieussens in the right hemisphere.

331. BRAIN IN WAX ; broken.

332. WAX PREPARATION of a brain, to shew the direction and enlargement of the nervous fibres, from the *medulla oblongata* to the convolutions on the surface of the brain.

333. WAX PREPARATION of the brain of a woman who died hydrocephalous. This piece is remarkable, from being a copy of the brain from which Gall conceived the opinion, that water in the ventricles of the brain produced the unfolding of the convolutions, without altering the texture of the cerebral membrane.

334. WAX PREPARATION of the brain, to shew the passage of the nervous fibres across the *optic thalami*, and the *corpora striata*.

335. WAX PREPARATION, of the brain of a dog, with indications of the organ of Locality.

336. BRAIN OF A HOG ; wax imitation.

337.

338. BRAIN OF AN APE ; in wax.

339. BRAIN OF AN OX ; prepared in wax for anatomical demonstration.

340. MASK ; in plaster, of —

341. SCROFULOUS SUBJECT ; pathological piece, upper part of the skull. The person died in a mad-house. The piece is remarkable for the complete junction of the parietal bones with each other (*Soudure*), and of the parietal bones with the frontal. The suture of the parietal with the occipital is the only one which has remained.

342. INSANE PERSON ; upper part of the skull. No other information.

343. SKULL of a man who died in the infirmary of a prison, where he was confined for theft.

344. PATHOLOGICAL PIECE ; a skull of a scrofulous and hydrocephalous person, who died in consequence of a syphilitic affection, which carried off some of the bones of the face and of the forehead. He had several attacks of epilepsy.

345. FEMALE THIEF ; upper part of the skull. She died in the prison of Spire, near Mayence. She sunk after eighteen months' illness. Her intellect was then very much weakened.

346. **INSANE PERSON**; upper part of the skull. No other information.

347. **SKULL**, wanting the base. This was the skull of a robber, who was shot in the head by a musket ball. It was obtained by Blumenbach.

348. **FRONTAL BONE**, deeply affected by the venereal disease. No other information.

349. **SCROFULOUS SUBJECT**; frontal bone. Gall shewed this piece on account of the thickening which it presents in the region which corresponds to the frontal base, and which appears like the development of the cerebral parts beneath. He stated this as a cause of deception, when it is attempted to judge absolutely by the exterior of the head of the development of the brain. It is always necessary to observe that that circumstance does not often occur except in the scrofulous.

350. **PATHOLOGICAL PIECE**; frontal bone having the trace of a sabre stroke on the right side. The physician who presented that piece testified that the wound did not alter the functions of the brain of that individual.

351. **PATHOLOGICAL PIECE**; left parietal bone presenting deep digital impressions, as they are observed in persons who have died of pulmonary consumption, or in whom the respiratory organs have been impeded for a long time. No other information.

352. **INSANE PERSON**; the upper part of the skull.

353. **MURDERER**, fragments of the skull; the rest supposed lost by Gall in moving his collection from place to place.

354. **NATURAL PREPARATIONS**, preserved in spirit of wine, of the spinal marrows of a man, and of a calf. Gall made use of these preparations for the purpose of shewing the origin of the nerves which originate in the spinal marrow, and distribute themselves to the skin, and to the organs of voluntary motion. He has engraved these two pieces in the atlas of his great work.

N.B.—The catalogue concludes with a list of 128 heads of quadrupeds, and 138 heads of birds, which, we presume, it is unnecessary to translate. The manuscript sent by M. Royer will be deposited among the papers of the Phrenological Society, where these lists may at any time be referred to.

ARTICLE IX.

LESSONS ON OBJECTS AS GIVEN IN A PESTALOZZIAN SCHOOL AT CHEAM, SURRY. Seeley & Sons, London, 1831.

[N. B.—We entreat our readers not to be repulsed from this article by its subject or details. Every word, original and quoted, demands their attention and reflection, as of deep concern to society.]

ALTHOUGH the glory of having first launched the heresy that words are not knowledge, and languages not learning, is not strictly Pestálozzi's, yet he is entitled to great credit for having practically proved the fact, by giving to the world a system of intellectual training in which every idea is a reality. In this country his labours are too little known. The size and number of the volumes in which his system is explained, and their foreign dress—to say nothing of the hostility of an interested and yet paramount pedagogue-ism—have hitherto much retarded the diffusion and the adoption of his views. What was wanted to make an impression on us in favour of them was a man of large brain, who, despising the clamour of ignorance, prejudice and self-interest, should at once establish a seminary on the principles of the system, and trust for his reward to the practical results working on the good sense of the community, if by slow, yet by sure progression.

Such a person the cause of rational education has found in Dr Mayo, who we rejoice to say is the founder and head of a school of *real* education at Cheam, in Surry, which has already arrived at so great a popularity, that applicants for their children's admission are enrolled many deep, like the candidates for the London clubs, and are quite as tenacious of their rotation. We have conversed with the parents of pupils of two or three years standing in the Cheam school, who expressed to us the greatest satisfaction with the intelligence, zeal, and substantial happiness of their boys, their delight in the pursuits and avocations of school, their resource in their holidays, their companionableness, and the contrast they present to the objectless, listless, idealess *Greeks* and *Latins* of the great schools, during the affliction of their vacations, who have been tasked with words, and words alone, and exercised in one only of their faculties, verbal memory, to the effect of leaving all the rest, and that, too, in boys of fifteen, in the abeyance of the nursery, and the owner a mere baby to most rational and useful purposes.

Dr Mayo's institution, which will realize him, we doubt not, a well earned fortune, is by no means mystified and guarded by him as an *unique* in the empire, with that paltry quackish

jealousy which betrays an inferior mind and doubtful merit. We understand he is most liberal in explaining every part of his system to visitors; and he has given still more unequivocal proofs of a philosophical and philanthropic spirit, by publishing the work now before us, which has the great advantage of being a directing manual, which would enable any sensible teacher to follow the identical course pursued by Dr Mayo himself.

In our speculations on that grand branch of practical Phrenology, Education,—in which we have yet much to indite,—we have often pressed the important truth upon our readers, and will yet press it more,—we cannot too much,—that it is deplorable ignorance of the human mind, gifted as it is with faculties to perceive and remember the nature of things, to rejoice in that exercise as of the purest felicity, and to reap infinite happiness by skilfully seizing all the beneficial relations of things to things, and things to itself, and to avoid much suffering which results from the unfavourable;—it is, we reiterate, miserable folly to endow at great cost what are called seminaries of learning, great schools, and extensive universities, for the unvarying, useless, valueless inculcation, not of things, qualities, relations, and practical conclusions, but of words! not of the things signified giving delight and securing happiness, but of the signs! nay, deeper yet in absurdity, not even of the current useful signs by which the things are actually known, but of the signs which happened to be conventionally used by certain tribes of the human race, whom their own barbarism extinguished many centuries ago; and who, with a few gleams of humanity, are only remembered for their immense power of evil, their selfishness, injustice, rapacity, sensuality, cruelty and crime. Yet in these privileged tribes of antiquity these last characteristics are not merely passed as things of course, and of quite different moral specific gravity from what the same acts would tell for in modern times, but are positively pressed upon the opening faculties, as the constituents of moral grandeur and practical virtue. This is an evil which recoils dreadfully on society. It holds up essential barbarism as the standard of morality; and when we add the gross profligacy, the nameless filth, which form a great portion of the staple of what are called the higher classics, all carefully instilled, relished, and admired, in the growth of classical taste, who can wonder that Christianity itself is overborne by a spurious and low morality, and that society continues selfish, sensual, and belligerent! But we do wonder that the blindness which tolerates all this should have prevailed so long, and that the thick scales are only now falling from the eyes of a few, in the second quarter of the nineteenth century. But let that few do their duty to their species. Let them sound without ceasing the tocsin of sense and reason,—bring up all the artillery of the press, the

"prima ratio,"—and, in spite of the interested clamour of the *incumbents* (an excellent name for the attitude and habits of beneficiaries) of classical benefices, which last explain but too well the duration of so many absurdities, in spite of the irrational opinion, fostered by them in an ignorant public, that they alone can dispense "the education of a gentleman,"—batter down the monkish strongholds of perverted education, and let out their much injured occupants to the free air and bright sunshine of gorgeous nature, teeming with instruction, redolent of delight, profuse of benevolence, full of grace and truth,—all denied to inquisitive childhood and ardent youth, plodding their weary way to the reputation of *liberal* education, in gloomy ill-aired halls, and punished for rebelling, with all the energy of their revolting nature, against the ignorant monachism which tortures them, and hoodwinks their equally *liberally* educated parents. There is no department of that manifold barbarism which yet adheres to us, in spite of all our claims to the character of civilization, which is destined more to blot our record with posterity, and posterity we suspect a very short way behind our own times, than this.

It is none of the slightest of the obstacles to the removal of the reproach, that there is yet no alternative between the Etons, the Westminster, the High Schools, and no education at all. Every sensible person sees, when made plain to him, the superiority of a *real* education, which shall implant ideas and confer power and resource, to one confined to the words of a dead language. "But then where is the improved education," says he, "to be obtained? When the disease is only beginning to be discovered, it is too much to expect the remedy; for, to deserve that name, the new training must be more than a theory, it must be practical and systematic, the commencement and the progress of all that it becomes and concerns man to know." Now, we consider Dr Mayo's little volume as having the merit of laying the foundation-stone of this much desiderated system. It exhibits that philosophical and systematic character which bears relation to the highest subsequent attainments of knowledge. The author, we doubt not, is impressed with the invaluable truth that Nature is a harmonious whole, and that the simplest elementary fact forms an item of the nicely fitted materials wherewith her vast fabric is reared. It concerns man first to know the material objects around him; to make himself familiar with their qualities, and with the relation of these qualities to himself. This study, as it respects the objects which a child daily meets with, suits the earliest childhood; the appetite for it is then the strongest; the faculty of Individuality is active and craving; and Dr Mayo has so arranged his plan as not to convey merely insulated miscellaneous facts, but that each object

shall impress upon the memory certain qualities which shall be recognised again when they are found in other objects, so as ultimately to lead to the abstract idea of the quality. Each lesson is given upon one object, such as Glass, Indian Rubber, Leather, Loaf Sugar, Gum Arabic, &c.; and although these objects seem extremely unconnected, a succession of connected lessons on the qualities of objects are conveyed by them. The volume, which is quite elementary, consists of five series of lessons, advancing from the extremest simplicity, by degrees, to higher combinations, and more complex ideas.

The first series addresses itself exclusively to the senses, according to Dr Mayo; although a phrenologist sees that the range of the five senses, as they are called, would stop far short of the knowledge conveyed by even the first series, and that higher knowing organs, to which the senses minister, are put in requisition. In his introductory remarks on this series, Dr Mayo says, "The first series presents a selection of miscellaneous objects, each of which possesses some distinguishing quality, yet so arranged as to have an obvious connection with what has preceded. The children should be practised in remarking those qualities observable by the simple operation of the external senses, deferring those requiring a higher exercise of mind till a more advanced period. One lesson is drawn out fully, as a specimen of the manner in which the others should be given. It would have extended the volume to an unnecessary length, and filled it with needless repetitions, had each been made out with equal minuteness. Much information might have been thrown into the preliminary set; but as the end proposed was rather to excite the mental powers to activity, than to provide them with food, it has been purposely avoided. It may perhaps be necessary to guard against the error of expecting, in a work like the present, any thing more than hints as to the mode of arranging and imparting knowledge. The teacher must be previously well grounded, in order to meet the inquiries which the active minds of children continually suggest. The questions will generally point out the best mode of treating a subject, or of leading them to the discovery of any truth. Precise unvarying rules may be laid down for mechanical operations, but mind alone can act upon mind, and bring it into vigorous exercise. All instruction must be dry and uninteresting, which has not undergone some modification from the person by whom it is communicated. One principal fault into which teachers are liable to fall, is that of telling too much to their pupils, who welcome the information with pleasure, but allow their minds to remain almost passive, and thus acquire the habit of receiving impressions from others, at a time when they ought to be gaining strength, by an exertion of their own powers. Another is that of giving a term be-

fore the pupil has felt his want of it. When the idea of any quality has been formed in his mind, without his being able to express it, the name given under such circumstances fixes it on the memory: thus, when a child observes that Whalebone, after having been bent, returns to its original position, he may be told that this property which he has discovered is called Elasticity. The following pages were written originally with no view to publication, but merely for the use of the school in which they were given; and the information they contain was drawn from various sources. No memorandum being made at the time, it would be now impossible to assign each passage to its respective author, though it is probable that those acquainted with the popular works on the subjects here treated of, may detect, in some places, almost literal quotations.

" LESSON I.

" GLASS.

" GLASS has been selected as the first substance to be presented to the children, because the qualities which characterize it are quite obvious to the senses. The pupils should be arranged before a black board or slate, upon which the result of their observation should be written. The utility of having the lesson presented to the eyes of each child, with the power of thus recalling attention to what has occurred, will very soon be appreciated by the instructor. The glass should be passed round the party to be examined by each individual*.

" *Teacher*.—What is that which I hold in my hand?

" *Children*.—A piece of glass.

" *Teacher*.—Can you spell the word 'glass?' (The teacher then writes the word 'glass' upon the slate, which is thus presented to the whole class as the subject of the lesson.) You have all examined this glass, what do you observe? What can you say that it is †?

" *Children*.—It is bright.

" *Teacher*.—(Teacher having written the word 'qualities,' writes under it—It is bright.) Take it in your hand and *feel* ‡ it.

" * By this means each individual in the class is called upon to exercise his own powers on the object presented; the subsequent questions of the teacher tend only to draw out the ideas of the children, and to correct them, if wrong.

" † This question is put instead of asking, 'What are its qualities?' because the children would not yet, in all probability, understand the meaning of the term, but by its frequent application to the answers to this question, they will shortly become familiarized with it.

" ‡ The art of the teacher is to put such questions as may lead successively to the exercise of the different senses.

" *Children*.—It is cold. (Written on the board under the former quality.)

" *Teacher*.—Feel it again, and compare it with the piece of sponge that is tied to your slate, and then tell me what you perceive in the glass *.

" *Children*.—It is smooth—it is hard.

" *Teacher*.—Is there any other glass in the room?

" *Children*.—Yes. The windows.

" *Teacher*.—(Closes the shutters.) Can you see the garden now?

" *Children*.—No.

" *Teacher*.—Why cannot you?

" *Children*.—We cannot see through the shutters.

" *Teacher*.—What can you say, then, of the glass?

" *Children*.—We can see through it.

" *Teacher*.—Can you tell me any word that will express this quality?

" *Children*.—No.

" *Teacher*.—I will tell you, then; pay attention, that you may recollect it. It is transparent†. What shall you now understand when I tell you that a substance is transparent?

" *Children*.—That you can see through it.

" *Teacher*.—You are right. Try and recollect something that is transparent.

" *Children*.—Water.

" *Teacher*.—If I were to let this glass fall, or you were to throw a ball at the window, what would be the consequence?

" *Children*.—The glass would be broken. It is brittle.

" *Teacher*.—Could I in the same manner break the shutter?

" *Children*.—No.

" *Teacher*.—Could I break it if I used great force?

" *Children*.—Yes.

" *Teacher*.—Would you therefore call the wood brittle?

" *Children*.—No.

" *Teacher*.—What substances, then, do you call brittle?

" *Children*.—Those which are *easily* broke.

" These are probably as many qualities as would occur to

* The object of the teacher here is to lead the pupil to the observation of the quality *smooth*, and he does so by making him contrast it with the opposite quality in another substance; a mode of suggestions, of which frequent use may be made.

† The fact of the glass being transparent is so familiar to the children, that they will probably not observe it till its great use, in consequence of that quality, brings it forcibly before their minds. They then feel the want of a term to express the idea thus formed, and the teacher gives them the word, as a sign for it, and in order to impress it upon their minds. To ascertain whether they have rightly comprehended the meaning of the word, they are called upon to give examples of its application.

the children at their first attempt, which, being arranged on the slate, form an exercise in spelling. They should then be effaced, and if the pupils are able to write, they may endeavour to remember the lesson, and put it down on their slates."

In the second lesson, INDIAN RUBBER, which is opaque, is chosen as a contrast to glass, which is transparent. Its other qualities are, that it is *elastic* (shewn by stretching it), *inflammable* (by setting a piece on fire), *black*, *tough*, *smooth*, &c. Its uses,—to rub out pencil-marks and make balls, &c.

LEATHER is chosen for the third lesson, to give the ideas that it is *flexible*, *odorous*, *durable*, *waterproof*, &c. It agrees with Indian rubber in being tough, smooth, and opaque. Of course, the four newly mentioned qualities will be demonstrated to the pupils by the necessary experiment or proofs.

Lesson fourth exhibits LOAF SUGAR, which conveys the ideas of *solubility* (demonstrated by dissolving a piece in water), *fusibility* (by melting another piece over a candle), *brittleness* (by easily breaking a piece). It is *hard*, *sweet*, *white*, *sparkling*, *solid*, and opaque. Its uses,—to sweeten food, &c.

In this manner, by means of twenty-three of the commonest articles, viz. in addition to the four named above, Gum, Sponge, Wood, Water, Bees' Wax, Camphor, Bread, Sealing-Wax, Whalebone, Sugar, Blotting-paper, Willow, Milk, Spice, Salt, Horn, Ivory, Chalk, and Oak-bark, are gained *ideas* (and their names too, for these ought never to be separated as they are in the old school) of the following additional qualities; and, being connected with the objects themselves, are impressed upon the mind for hourly employment in after life, in the acquisition and use of human knowledge, viz. bright, yellow, semitransparent, adhesive when melted, porous, absorbing, soft, dull, light brown, dry, light, liquid, reflective, colourless, inodorous, tasteless, heavy, purifying, wholesome, sticky, yellowish, aromatic, friable, volatile, soluble in spirits, medicinal, edible, nutritious, yellowish-white, moist, incompressible, adhesive, fibrous, stiff, pungent, jagged, thin, pinkish, pliable, easily torn, fluid, greasy, granulous, saline, sapid, uneven, hollow, odorous when burnt, tapering, effervescent in acid, rugged, &c. Of course, whenever the quality requires an experiment in order to be manifested, that is made in presence of the pupils, such as making chalk effervesce in vinegar, and the like. The uses of each substance are likewise pointedly recorded.

Now, let any one whose knowledge of external nature is extensive, ask himself, how much of what he has acquired would have availed him aught, without familiarity with these and such like qualities? and how important it is that these qualities should be impressed on the mind in the very first budding of intellect. Then let the grammar-schoolmaster come forward and declare

what *he* has for the same age, say eight years, to set in competition with Dr Mayo's lessons, in this his first series. Knowledge is to commence in the way most beneficial, according to our schoolmaster's best judgment; such knowledge as will enable the pupil in after life to distinguish beneficial from hurtful relations in the nature of things, and place himself in accordance with the established laws of nature, on which the highest degree of happiness of which he is capable on earth depends. The answer would be something like this: "It is essential, I hold, to these important ends, that the pupil shall forego every other pursuit, and addict himself, heart and soul, to the declension of *penna*, a pen. It is idle, it is vulgar, to teach him the qualities and uses of glass, leather, wool, water, sugar, bread, and such unclassical matters; every thing is done for him when he is taught that these *words* are translated into Latin by *vitrum*, *corium*, *lana*, *aqua*, *saccharum* and *panis*. To this kind of knowledge I mean to confine the pupil for at least six, if not ten, years, leaving it to his inclination to persevere for life, with the addition of revealing to him the Greek for the same words, and for all other words in the English language. Instead of *unlearned* English books, he shall read Latin and Greek books, which are the best means yet discovered by human wisdom for exercising *all* the powers of the mind, for disciplining the intellect, giving habits of attention and study, forming the morals on the *purest* standards, exalting the taste to the highest attainments of elegance and refinement, and dispensing science itself from those original sources to which Europe was ready enough to come to draw at the revival of letters, when she had nowhere else to go to. By the time you have finished your first series, as you call it, of common-place knowledge, unworthy of the attention of a *scholar*, my pupils shall be able to repeat the genders of those words called nouns, to make the words called adjectives agree with the more substantial words called substantives, so as to detect you at once if you should say *bonus penna*, instead of *bona*; and, peradventure, by unusual diligence, he may have mastered the conjugation of *amo*; and be prepared to recognise it,—for all my words, like all your things, have relation to a system,—when his higher classical attainments make him familiar with the history of Mars, Venus, and Vulcan." We can imagine Dr Mayo listening to this speech, which, of course, will be delivered with much wrath and suitable dogmatism,—the long established always making it matter of conscience to be angry with the innovator, having forgotten that his own notions were once innovations,—and unconvinced, ranging up his pupils for the second series of low common-place facts in nature, while his opponent proceeds to un-

veil to his the mysteries of "*propria quæ maribus*," and the practical utilities of *doceo, docui, doctum, docere*.

In the second series, of fourteen lessons, Dr Mayo observes, that the children should be exercised upon all the qualities communicated in the first series. This fixes the knowledge, and gives the abstract ideas. He incidentally explains the senses themselves, and classifies the knowledge as obtained by this or the other sense, or by more than one sense at a time; and exercises the pupils in distinguishing and naming parts of objects, as of a Pin, a Cube of Wood with its surfaces and angles *, an Uncut Lead Pencil, giving the notion of the mathematical figure of a Cylinder, a Pen, a Wax Candle, a Chair, a Clock, an Egg, a Tray, a Cup, a Grain of Coffee, a Pair of Scissars, &c.

In these lessons, it is obvious, besides perceiving the parts, and the new qualities of the parts, the pupils will recognise the qualities made familiar to them in the first series.

In the third series, Dr Mayo guides the children to discover qualities which call into exercise what he terms the judgment in connection with the senses. "Thus, by shewing them at the same time an object in its natural and in its artificial state, as Wool and Woollen Cloth, they will readily conceive the ideas of natural and artificial. Having also been long exercised in observing and naming the qualities of objects, they may now be called upon to give an explanation of the terms they use, and by assisting them to trace their derivations, the teacher will add to the interest of the lessons." This we consider exceedingly good, for it not only teaches words, but impresses them by connecting them with real ideas, the only useful foundation of the study of language itself. Lesson first is upon a Quill. "Ideas to be developed,—natural, artificial, animal, vegetable, animate, inanimate. A pen should be shewn at the same time with the quill. Then the children being questioned as to what constitutes the essential difference between the two, will understand the terms natural and artificial. If some fruits or flowers be placed by the quill, their attention may be directed to the distinction between animal and vegetable substances. The comparison of the quill with an insect will elicit the ideas of animate and inanimate."

The children then describe the parts as in the second series, the qualities as in the first, and any new one's properties.

"The teacher now requires the class to give an explanation, in their own words, of the terms they used.

We should advise here Mr Wilderspin's excellent plan of an early familiarity with geometrical figures, and the simpler relations of perpendicular, horizontal, inclined, curved, parallel, &c.

" *Teacher.*—' Useful.' Give me examples of words of the same termination.

" *Children.*—Careful, &c.

" *Teacher.*—What is the force of that termination ?

" *Children.*—It expresses the quality in a great degree.

" *Teacher.*—What is the opposite of useful ?

" *Children.*—Useless.

" *Teacher.*—Give examples of this termination.

" *Children.*—Fatherless, &c.

" *Teacher.*—From what is natural derived ?

" *Children.*—From nature.

" *Teacher.*—From what is " inanimate" derived ?

" *Children.*—From *in*, which has the sense of not, and animate.

" *Teacher.*—Animate is derived from *anima*, a Latin word, which signifies life. Transparent is derived from *trans*, through, and *parent*, appearing. Give other words from *parent* appearing.

" *Children.*—Apparent, apparition.

" *Teacher.*—' Cylindrical.' From what is it derived ?

" *Children.*—From cylinder.

" *Teacher.*—Cylinder is derived from the Greek *κυλινδρον* (*kulindo*), I roll."

In seventeen lessons, of which the third series consists, the parts, qualities, preparations, and manufacture of the following objects are impressed : A Halfpenny, Mustard-seed, an Apple, Glass of a Watch, Brown Sugar, an Acorn, Honeycomb, Refined Sugar, Butter-cup, Lady Bird, Oyster, a Fir-cone, Fur, Laurel-leaf, a Needle, a Stone. We have not space to detail the variety of valuable ideas, and, incidentally, the corresponding terms and derivations which these few objects lead to, such as Mineral, Metallic, Fusible, Indigenous, Spherical, Stimulating, &c. ; Stone, Stony, Milk, Milky, Organized, Inorganized, &c. The uses, likewise, are well marked, and the places whence the objects come ; we think at least one hundred new ideas are conveyed in this series.

The fourth series has for its aim the classification of objects according to their points of resemblance and difference. This is one of the exercises of reason, as it puts in requisition one of the higher or reflecting powers, namely Comparison ; and this may be done much earlier with children than is commonly supposed. The Spices are chosen as forming a connected series of objects. The Metals, Woods, Grains, &c. as answering the purpose equally well, follow. The children are, however, first exercised, more at large, on the senses themselves, which they have been using. Each sense is the subject of a lesson, and, bating some inaccuracy arising from adopting the phrenologi-

cally exploded notion that the mind is stored with ideas by the senses alone, the senses themselves are exceedingly philosophically and satisfactorily explained to the pupils. The author then takes up the Spices, Pepper, Nutmeg, Mace, Cinnamon, &c. and fills above twenty pages with them, and with the liquids, as Water, Oil, Beer, Vinegar, &c. and imparts a store of new ideas, such as Production, Trade and Commerce, Aromatic Odours, Genera, Species, Varieties, Foreign Countries, Malt, Hops, and a hundred others. An exercise in the comparison of substances, shewing the points of resemblance and of difference, concludes the series.

The fifth and last series consists of forty-nine lessons, and occupies as much of the volume as all the other four series. "These lessons are intended as a first exercise in composition. The object should be presented to the children, and they should continue, as before, to make their own observations upon it. They are then interrogated as to what they know concerning the substance; and all the information which can be obtained from them is collected by the teacher, who may then communicate any farther particulars on the subject, calculated to interest or instruct. The materials thus obtained should then be arranged and repeated to them; after this, the class should be examined upon all that has passed, and, finally, required to draw up a written account themselves. Children from eight to ten years old have derived great improvement from this exercise. It not only serves to stimulate their attention during the progress of the lesson, but also furnishes a test of their having well understood it, and leads them to arrange and express their ideas with clearness and facility. In this course the substance should be exhibited both in its raw and in its manufactured state. Thus, in the lessons on Flax, the plant itself, the fibres when separated from the stem, the thread when spun, and the various substances into which it is made; may be brought before the class; and likewise pictures of the machinery employed in these operations *."

The first lesson of this series impresses the origin, appearance, qualities, preparation and uses of Leather; and this includes Oak-bark, already familiar, Lime-water, Alkali, &c. The second treats of Cork in the same way, and tells where it is produced. The succeeding lessons are on Indian Rubber, Sponge (for many of the objects were presented before for a less extensive description), Camphor, Horn, Shell Lac, Wax Candles (which brings in capillary attraction), Glue, Coffee, Tea, Sago, Rice, Paper (a long lesson on its manufacture), Parchment, Glass, Whalebone, Bread, Sugar, Hemp, Flax, Cotton, Wool, Silk, Court Plaster, Saffron, Butter, Cheese, Putty, Starch,

* Models of machinery and implements, when attainable, are much better.

Felt, Porcelain. The 38d lesson introduces the Metals, with the following remarks : “ In these lessons on the common metals, it is necessary to present the specimens to the class in their several natural and artificial states ; that is to say, the native ores and the manufactured metals. The teacher would find the interest of the pupils awakened by the examination of the several substances, and, consequently, that they would be more inclined to receive with profit the information conveyed. The plan of writing down the list of qualities has been again adopted with the metals ; as they lead to a new range of ideas, and form so decidedly the characteristic distinctions of the substances.”

The first metal treated of is Gold. It is a perfect metal—malleable, ductile, tenacious, heavy, indestructible*, fusible, incombustible except by electricity. A solid piece of gold and a piece of gold-leaf are shown ; the almost incredible malleability and ductility of gold explained ; and its resistance to all acids but aqua regia, a mixture of muriatic and nitric acids. Then come its uses in coinage and ornament, as Lace, Gilding, Metals and Porcelain, mode of beating out, &c. The lesson concludes with the geographical localities of the metal, and its geological and mining description. In this way are treated in successive lessons, illustrated by exhibition, Silver, Mercury, (with the Thermometer and Barometer, &c.) Lead, Copper, Iron (with Cast-Iron and Steel), and Tin.

The 40th lesson compares different metals with each other, which brings in with practical illustrations the doctrine of specific gravity. The 41st lesson, one of much interest, is on the attributes of metals in general ; their Metallic Lustre, Sonorousness, Weight, Ductility, Tenacity, &c. their Combinations, and Alloys in what is called Metallurgy, or the working of metals. This is followed by questions on all the metals, as an exercise :—“ What are the chief qualities and properties of Gold, Silver, &c. ? How is Gold beaten out ? How are Buttons gilt ? What is Lunar Caustic ? What are the specific gravities of Gold, Silver, Tin, Lead, &c. ?

The 42d lesson takes up the Earths ; Lime and its many combinations, animal, vegetable, and mineral ; Alumine, or Argil, with all its applications, in bricks, pottery, &c. to the use of man. The remaining lessons are on Coal, Granite, Salt, Slate, and Coral.

We have been thus minute, we trust none will say to weariness, from our conviction that a summary of the *whole* system is necessary to its due appreciation. Of this we do feel assured, the pupils will not weary of it ; and that, connected, as it ought

* This is no distinction—no matter is destructible.

to be, with the health and vivacity of ventilated school-rooms, and frequent recourse to the play-ground, and withal a friendly, kind, cheerful manner of teaching and intercommuning, on the part of the instructor, it will delight the youthful students, put the barbaric artificial stimulants, not only of rods, but of place-taking, medals, and prizes, for ever out of fashion, and render these matter of curious history to the better taught pupil, in association with the very foolish methods of education which, however incredible it may be to him, did once prevail in society.

No phrenologist can have gone thus far with us without perceiving that in these five series of lessons, almost all the intellectual faculties have, or, with a little address, may have, their turn of exercise; that exercise, on true phrenological principles, constituting high enjoyment, and being, from its very nature, exhaustless.

If Dr Mayo were a phrenologist, which we conclude from numerous *indicia* he is not, he would improve materially his lessons by the endeavour which he would make to present its own specific exercise to each of the faculties of the intellect, both knowing and reflecting. For example, he has plentifully exercised the five senses, and likewise Individuality, Form, Colour, Resistance, Order, Language, and Comparison; and has not left quite unsummoned, Locality, Number, and Tune (if sound or sonorousness be one of the functions of that last faculty), and Causality. But these four faculties active in the master, would suggest much more of interesting matter to gratify them in the pupils, than has occurred to our author. Eventuality, which perceives and remembers things that *happen*, scarcely occurs in the examination of qualities and properties of objects, which, as existences, or things that *are*, are cognized by Individuality, and the faculties which perceive qualities, unless an experiment can be called an event; for example, the effervescence which *happens*, as a change, when a piece of chalk is put in vinegar. The faculty of Time is necessarily left untouched, as mere objects do not appeal to it; its phenomena would therefore require a specific lesson. With provision made as now suggested, the base of Dr Mayo's system would be beneficially widened, without altering its essential character as a base, on which can be built the gradual acquisition of a vast store of knowledge, up to the highest scientific attainments; and we recommend to Dr Mayo to put forth yet more volumes, unfolding the regular structure of such a system:—indeed we cannot doubt that such is his intention; so that a youth may, before he is twenty, by suitable diligence, be master of the bulk of already attained human knowledge, ready for practical and powerful application to human affairs.

Phrenology suggests to us one important chapter, to which Dr Mayo is not likely, without its lights, to give a place in his book ; namely, to turn the student's attention, and that right early, upon his own nature and qualities, as well as upon the nature and qualities of external objects. This will be followed by, the necessary consequence of knowing both, the invaluable perception of their relation to each other,—the adaptation to the faculties of man of the external world,—a wide field for the display of the wisdom and goodness of Omnipotence, from which springs, as effect from adequate cause, the love of God which is the beginning of wisdom, and the surest foundation of religion. In contemplating that harmony which knowledge unfolds as pervading all the works of God, how beautifully would religious impressions connect themselves with the progress of the knowledge of things and the relations of things, the bountiful provision which is made for the happiness of sentient beings, but above all of mankind—"sua si bona norint,"—did they but use aright all the faculties which God has given them, and abuse none of them.

Now, for the purposes of our present argument, we request Dr Mayo to indulge us so far as to assume Phrenology to be true, and then he will see the importance of what we suggest. The five *external* senses (as they are miscalled, merely because the parts of the brain where they really exist have five tangible inlets, communicating with the brain by nerves,) are explained by Dr Mayo to his pupils, infants as they are. Phrenology adopts and throws farther light on the five senses, and moreover has rendered probable a *sixth*, which has escaped the old philosophy, as well as general observation, just because it has no specific nose, or ear, or eye, to lead attention to it, but has its organ in all the muscles of the body ; namely, the sense by which animals keep their balance, or instinctively resist forces which disturb the centre of gravity of their bodies, or put them out of accordance with the direct line of gravitation. But this by the way, as we have largely considered that sense or faculty, and its derangement by intoxication, vertigo, &c., elsewhere *. Why should the instructor stop short with the senses ? Phrenology has demonstrated that the yet higher powers have material organs or portions of the brain, as obvious as the muscular frame, from the simplest perceptive up to the highest reflecting powers of intellect, and from the lowest animal feelings up to the loftiest moral sentiments. There should be a series, or several, coincident with those that treat of the perceptions or objects, conveying a knowledge of the percipients or faculties ; in other words, the elements of Phrenology, with the organology, should be taught to pupils, that they may early know the constituent parts

* See Vol. IV. p. 266.

of their own minds, and of the brain, by and through which the mind manifests itself. It is another of the old-womanisms of current education, that the study of mind is reserved for adult intellects only. Mind, as unfolded by Phrenology, is as simple and easy to be understood as those objects of external nature which are arranged in Dr Mayo's volume. Truth is simple; and nothing better demonstrates her approach than the beautiful simplicity as well as harmony which her simple daylight, shed upon nature, has unfolded, but which the habitual and prejudiced gropers in complexity and mysticism will ever reject. We could introduce Dr Mayo to children under ten years of age, who can point out all the phrenological organs, and tell him the functions and combinations, and account phrenologically for their own feelings and conduct.

It is easy, and it is as delightful as easy, to unfold nature to these children, able as they are to see at every step its harmonious accordance with their own constitution.

For the great end of enabling the young to obey the laws which nature has established as the conditions of health of body and mind, the parts and functions of their own bodily frame should be made early familiar to them. The whole process of digestion and chylification is greatly easier than the Greek verb *τρυφω*; and the effect of air and exercise on the blood, nerves, and muscles, may be impressed, never to be forgotten, more easily than a hundred bad hexameters may be perpetrated, Minerva willing or not, in other words—Ideality and Time, for rhythm, present or absent.

This, then, is the grand department of education termed KNOWLEDGE. Of course, instrumentary branches, such as Reading, Writing, Arithmetic, Geography, Languages, which last are not knowledge, but instruments of knowledge, will all come in their right places, not even excluding Latin and Greek, if any utility shall remain in them; but giving them no more than their due share of attention. The *moral training* of early infancy will also precede much of this intellectual; and no one better understands and appreciates that paramount object of infant education than Dr Mayo.

We venture now to trust, that the too common questions,—“What can you do with a boy between eight and fifteen, but send him to a grammar-school?” is now answered. We should rather say, “What can you *not* do with him? And what can you do with him worse than send him to a grammar-school?”

The Edinburgh Review has lately exposed some of the monachisms and heathenisms of the great grammar-schools of England; and the Scotsman has repeatedly expostulated with the patrons of the High School of Edinburgh. When we saw that most graceful specimen of architectural symmetry finished and

dedicated, few perhaps at the time thought with us, that its commodious halls could not for yet another generation be wasted on an unmeaning repetition of obsolete words; but must soon shelter the ardent and delighted students of nature; the youthful reapers of the harvest of knowledge; and lodge the cabinets, the museums, the models, the machines, the apparatus, and the books, which are to send them forth the able, accomplished, and powerful coadjutors of nature, and architects of their own and their neighbour's happiness.

Long before the public are prepared for this, much may be done to hasten the reformation, by spirited private adventure. We know *Dr Mayos* among ourselves, who could establish, and improve phrenologically upon, a Cheam School in or near Edinburgh. It would not become us now to name names; but we shall not cease to urge the plan upon those who are fit for it, and trust at no distant time to see it realized *.

ARTICLE X.

CHRONICLE OF THE TIMES, AND DISSEMINATOR OF USEFUL AND ENTERTAINING KNOWLEDGE; DEVOTED TO MECHANICS, MANUFACTURES, INTERNAL IMPROVEMENTS, AND GENERAL INFORMATION. Baltimore, 1830-1.

SUCH is the title of a journal recently started in America, and published weekly in the form of a newspaper, under the superintendence of two Professors of the University of Maryland, viz. Ducatel, Professor of Chemistry as applied to the Arts; and Calvert, Professor of Moral and Intellectual Philosophy. The object is an admirable one; and from the specimens we have been favoured with, the plan adopted seems exceedingly well calculated to insure success. The ordinary balaam, consisting of pure gossip, melancholy accidents, and horrible offences, is totally excluded; a reasonable space is accorded to important political movements and news; and the rest of the paper is dedicated to the diffusion of permanently useful or entertaining knowledge, connected with statistics, geography, natural history, moral and political science, education, literature, arts, and manufactures, &c. The selection of articles is generally highly judicious, and is drawn equally from the publica-

* Cabinets, containing the substances referred to in *Dr Mayo's Lessons*, are advertised in a bill appended to the book, as sold by Edwards, 29. Wilton Street, Earl Street, Westminster, at the price of 7s. for the first three series, and L. 1, 10s. for the whole course. We recommend them to families most earnestly, along with the volume, which we have just enjoyed the pleasure of analyzing.

tions of both hemispheres, and with a due regard to variety as well as utility.

On taking up No. 4. for example, we find articles, 1st, on Bleaching; 2d, on Ventriloquism; 3d, on the Increase in the Intensity of Sound during the Night; 4th, Cuvier's Remarks on the Revolutions in the External Crust of the Globe; 5th, on Curious Trees; 6th, Railway to Washington; 7th, Baltimore and Ohio Railroad; 8th, Susquehanna Railroad; 9th, Improvements in the Navigation of the Ohio; 10th, a Phrenological Lecture on Conscientiousness; 11th, Channing's Character of Milton; 12th, Statistics of Prussia; 13th, Mrs Hannah More; 14th, two columns of the Editor's Remarks on Education in America, and on the State of France; 15th, Remarks on Colombia; 16th, the Quilting Party, a tale; 17th, the Knights of the Teutonic Order; and, lastly, Advertisements.

Such is the first Number we have laid our hands upon. In many of the others, the selection is even better calculated for the general reader; and it delights us to observe in all of them, one or two columns devoted to conveying clear and attractive views of the Phrenological philosophy, and remarks on its important applications to practical life, to education, and to morals. Our own essay on the uses of phrenology is republished entire; and the editor, in his leading article, hesitates not to pronounce it the ablest and clearest exposition of the nature, situation, and wants of man, which has ever appeared in print; and to equal which, *without the aid of Phrenology*, would, he adds, have required ten or a dozen well filled volumes. His own words may be given.

"We conclude to-day the essay on the uses of Phrenology. Our readers—although we trust they have read it with pleasure and instruction—will not be disappointed at finding that they have got to its end: some, we fear, were beginning to despair of its having one. The subject is in truth *endless*, which is an excuse for the apparent length of the explanation of it; for in fact it is only in reference to the pages of our paper, and in comparison with the average length of our articles, that it is long.—As an exposition of the capabilities of human nature, of the destination of man upon earth, of the original law of his being, with its progressive development, it is unequalled in clearness and satisfactoriness with any thing we have ever met with. Whoever has read it studiously and reflectingly will, we are confident, agree with us. No mind, however strong, however acute, however cultivated, could ever, by the ordinary metaphysical method, have expounded so clearly and discriminately the mental constitution. Not only could no human genius—unaided by the discovery of the connection between mind and

matter—have given, in so short a space, so complete and graphic a picture of the complex multifarious powers of the mind; but it could not even have done so in the compass of a volume, or of a dozen volumes. Indeed, the conclusions to which it was first necessary to arrive, could never have been reached without this discovery. Consciousness, reflection on what passes in our own minds, assisted by extensive observation of manifestations of mind, in thought and action, united to the most penetrating acuteness in discovering motives, could never have led to the knowledge of the **ELEMENTARY** powers of the mind. Nothing but the ascertaining of the instrumentality of the **BRAIN** to produce manifestation of mind, and of the exclusive appropriation of distinct parts of it, to separate independent faculties, could have revealed this knowledge.

“It would be very easy to prove the general ignorance in regard to this, the most important of all branches of knowledge.—Take the most distinguished scholars at our universities—fifty, for instance, from among the graduates at Cambridge, Yale, Princeton, Philadelphia, Charlottesville; and put to them the question, which the writer of this essay put to the young man going to India—‘What views they entertained of life, and the objects of their existence?’ Although just issuing from the best of the first class of institutions for education, which our country affords, would not this question be as new to them as it was to the young Scotsman? They would either give an answer similar to the one he gave, or be puzzled by it. And yet, intellectual philosophy (so called), and moral philosophy (so called), have formed a part of the plan of studies for pursuing which with diligence they have been distinguished above their classmates.—Their inability to answer this question arises from the utter insufficiency of all *metaphysical* systems of intellectual and moral philosophy, the only ones hitherto taught at our universities; and thus young men of talent and industry, whose parents have subjected themselves to a heavy expense to secure to them the advantages of a ‘liberal education,’ go forth upon their various careers, totally ignorant of the knowledge of that which would be of more use to them, in whatever lot their lives might be cast, than any acquisition which labour, study and expense, could procure. Young men and young women enter upon life with no more idea of what happiness consists in, than had Rasselas and his sister when they sallied forth from the valley of Amhara.—Although we shall probably be not understood by many, and shall even be derided by some, we confidently assert, that where the science of mind, designated for shortness by a Greek compound, *Phrenology*,—and which alone, among all systems of mental philosophy, deserves the name of **SCIENCE**, as being the only one founded on *discovery*, instead of being, as all others are, the result chiefly of invention and speculation

—wherever Phrenology shall be made a part of education, this state of things will cease.”

We rejoice to see our labours thus appreciated, and proceed with double ardour when cheered with such palpable proofs of success attending our exertions.

The co-operation of our able and enlightened friends in the United States is very gratifying to us. Considering, however, the difficulties thrown in the way of the diffusion of Phrenology, by the prejudices or ignorance of the public and of the periodical press; the extreme aversion generally shewn by our contemporaries to notice any thing favourable to the cause which we advocate, and the consequent necessity which exists for all who are friendly to the progress of truth and of human improvement, to aid our exertions by every means in their power, we should have been still more gratified had they availed themselves of more frequent opportunities of reference to the publications of the British phrenologists, and to our Journal, as the sources from which they have derived much of their own knowledge. We do not blame them for the omission, because we are satisfied that they meant no harm by it. True it is that they mention having reprinted the article on the Uses of Phrenology from our pages, but they copy that read by Sir G. S. Mackenzie to the Royal Society without, so far as we can perceive, acquainting their readers with the place of its original publication. This not only *looks* ill, but really does harm. It leaves those who wish to pursue the subject in ignorance of the means whereby to accomplish their purpose; and it is scarcely just towards those who have laboured in the diffusion of useful truth, and been rewarded for their pains and sacrifices chiefly by ridicule or neglect, at least so far as the public is concerned; for to themselves the consciousness of doing good, and of advocating the cause of truth, brings with it a rich reward, of which neither friend nor enemy can despoil them. But, besides these considerations, every one who knows enough of Phrenology to be able to foresee the invaluable services which it is destined one day to render to the improvement of man and of human institutions, cannot fail to perceive, that the best way to hasten the arrival of that day is to diffuse widely a knowledge of the various works in which the doctrines and applications of Phrenology to the purposes of life are explained and demonstrated. Our American brethren and ourselves have the same objects and interests at heart, and sure we are that it is no petty jealousy on their part which has led to the omission to which we call their attention. At the same time, and in justice to them, we must add that we speak only of the few numbers of their paper which have yet reached us; and that we shall be delighted should we afterwards find that our remarks were uncalled for. They have our best wishes for their prosperity.

ARTICLE XI.

AMERICAN ANNALS OF EDUCATION AND INSTRUCTION, &c
Third Series. Nos. I. & II. Boston, 1831.

Our readers will recollect our having, in the last Number of this Journal, called their attention to the above named publication, and recommended in a special manner to the consideration of the studious the plan of the Manual Labour Academy of Pennsylvania, for combining bodily health and intellectual exercises. Since then we have been gratified by the receipt of the two subsequent numbers from the editor, and are happy to find in them several articles of interest and importance.

The Sketches of Hofwyl, in which the system of education and moral training adopted by Fellenberg is fully explained, are continued. Next to these we find an article on *Infant Education*, containing some admirable and homely suggestions addressed to parents. They it is who must educate the child, whether they choose or not. Their every action and tone and look have their influence upon the infant mind; and thus the general tenor of *their own conduct* in life becomes the most durable and impressive lesson which can be given to their offspring. As the *FIRST* step, then, for the proper education of your children, says the journalist, *be yourself what you wish them to be*. In teaching them temperance and forbearance in eating and drinking, and in protecting health, avoid *yourself* every habit, deny *yourself* every gratification which you know and tell them to be prejudicial. *Watch over your own heart* and temper; and while you inculcate good nature, kindly affection, justice and benevolence, on your children, do not set them the contrary example in your practice. *Regulate your personal habits and your house* as if you really believed cleanliness, order and occupation, as essential to health, happiness and success, as you profess them to be. *Watch over every thing which surrounds your child*, and expose him not heedlessly to temptations against which he cannot protect himself. Considering the preceding as *indirect* education, the writer then passes on to *direct* instruction; and his remarks on the mode of exercising the various powers of intellect and moral feeling are exactly such as would occur to the practical phrenologist, and which we have repeated too often to require to restate them here.

The subject next discussed is the necessity of providing schools for teaching the middle classes that kind of knowledge which is to be most beneficial to them in future life; and the article itself is a review of a German work by Dr Harnisch,

written to excite the attention of the Prussian government ; and his object seems about to be attained, as the King and his Ministers have resolved that an establishment shall be opened for the purpose at Berlin, under the Doctor's superintendence. There is ample room for similar schools nearer home than Prussia, and we trust the day is drawing near when those who are desirous of really learning something applicable to the business and affairs of life shall have opportunities afforded them. Judging, however, from a tendency which is creeping in, in regard to the education of children, we think that in carrying the proposed plan into effect, great care should be taken to guard against the error of attempting to teach to all *too much* knowledge, if we may use such an expression. The mind of man is too limited in power to embrace successfully every branch of science ; and each, by the difference of his mental constitution, is better fitted for one situation in society, and for one species of useful pursuit, than another. Each, therefore, ought to be taught in relation both to his capacities and to his future destination, and not be converted into a mere reservoir of a little knowledge of *every thing*, which is at present too much the practice in recently improved schools. The mind, instead of being invigorated and stored with valuable ideas, loses in strength and in action by having its energies wasted in detail over a wide superficies ; and in education, as in art, it will yet be discovered that it is better for a scholar to know even a few subjects thoroughly than to turn out a "jack of all trades and a master of none." The principle is the same in science and in art, and we hope its wisdom will not be overlooked.

In the same number we meet with an excellent article on *Seminaries for Teachers*, in which is powerfully set forth the necessity of fitting every aspirant for that difficult and important office by previous preparation, and not trusting to his becoming qualified by mere intuition. The shoemaker and the tailor go through a long course of instruction in their peculiar arts before being considered qualified for their practice, but the teacher, whose materials are complex in the very highest degree, and whose duties unspeakably transcend in importance those of the artificer or mechanic, boldly enters upon his office without the slightest practical preparation ! The absurdity of this is beginning to be perceived, and we now hear of seminaries for teachers as well as for scholars. First in every improvement, as from the activity of Self-esteem we consider ourselves to be, we may yet take many a lesson from our neighbours. For example, the single canton of Argovie in Switzerland, with 150,000 inhabitants, has long had a seminary for teachers, and pays annually 2000 dollars for its support. The pupils, thirty in number, are required to remain two years, and are supported

in part by the state, and in part by their respective towns, or their own private resources. Such an establishment speaks volumes in favour of the cause, and of the people among whom it exists. In this country the teacher enters upon his profession an unexperienced and blind guide to the young. If he have talent, zeal, and integrity, he may, in two or three years, find out some better plan than that with which he began; but if he have not, he will go to his grave the prejudiced and ignorant follower of his own passions and inclinations, and the tormentor, not the instructor, of his pupils. In some places of Switzerland, Germany, and America, the teacher enters upon his important office, drilled and qualified for its duties, and is not left to learn his trade by first spoiling his materials, and then wondering at the havoc he has made.

In the subsequent articles there are some excellent illustrations of the moral government of a school, and of the natural method of teaching grammar. This last we particularly liked, and are sure its adoption must be attended not only with great success, but with great pleasure to the children. The principle involved in it is simply that of presenting the idea to the child before attempting to clothe it in words,—of making words be sought for to express the idea which is already in the mind, instead of giving the child words to analyze, of the meaning of which it could not possibly have any previous conception. This is done with great ingenuity and simplicity.

We are glad to notice under the head of "General Intelligence," that, in America, the clergy are recommending the manual labour system from the pulpits. The Rev. Mr Tyng of Philadelphia has published an able sermon on "*The importance of uniting manual labour with intellectual attainments in a preparation for the ministry.*" The clergy have much in their power in directing the body of the people, and it is their bounden duty to avail themselves of their advantages to enforce, a great deal more than is generally done, the necessity of employing the *temporal* means of improvement which God has appointed for our use.

We have room to give only the contents of the February Number of the American Annals: 1. Sketches of Hofwyl; 2. Seminaries for Teachers; 3. Review of Mr Wood's Account of the Edinburgh Sessional School; 4. The United States Military Academy of West Point; 5. Music as a branch of common education; 6. Jacotot's System of Instruction; 7. Methods of teaching to read; 8. Practical Lessons, Course of Studies in Prussian and Bavarian Schools; Intelligence and Notices.

ARTICLE XII.

HINTS TO THE OPERATIVE CLASSES IN BRITAIN.

IN Manchester and other towns in the manufacturing districts of England, the operatives are projecting societies for the purpose of preventing reduction of wages : they are also bent upon accomplishing a restriction of the hours of labour ; but the methods by which they seek to attain these ends are hurtful and preposterous. The restriction of labour which some of them actually carry into effect, is devoting one day in the week to idleness and drunkenness, in addition to Sunday, which probably they spend in a similar manner. The societies for preventing reduction of wages contemplate aiding each other by subscriptions of money, so as to enable the operatives in different districts successively to stand idle until their employers shall consent to pay such wages as they shall consider equitable. We are strenuous advocates for restricting the hours of labour and ameliorating the condition of the working classes, but we wish to see these ends accomplished according to the principles of reason, and the constitution of human nature.

The great question is,—Whether man is intended by the Creator to reap his chief enjoyment on earth from his animal propensities, or from the faculties which constitute his rational nature? If from the former, then society is essentially constituted at present on a right basis : the lives of the lower and middle classes are dedicated to the production and accumulation of wealth as their proper business, and those of the higher classes to the enjoyment of wealth already acquired. If, however, man is destined to derive happiness chiefly from his rational nature, which is our theory, a great change remains to be accomplished in the institutions and practices of society ; and we entreat of the operatives to consider what these changes must be, in order to produce real and permanent benefit to themselves and society at large.

If man shall ever assume the station of a rational being on earth, the business of his life must be to study the works and the will of his Creator, to frame his institutions in conformity with them, and to act in harmony with the designs which these reveal to his understanding. One requisite to enable him to follow pursuits referable to these principles, is provision for the wants of his animal nature ; namely, food, raiment, and comfortable lodging. It is clear that muscular power, intellect, and mechanical skill have been conferred on man, with the design that he should build houses, plough fields, and fabricate commodities, because his nature requires the aid of the articles pro-

duced by these means. But the question is, whether ought his whole life and energies, aided by all his discoveries, to be dedicated to these ends, as his proper business, to the neglect of the study of the works and will of the Creator? Has man been permitted to discover the steam-engine and apply it in propelling ships on the ocean, and carriages on railways, in spinning, weaving, and forging iron; and has he been gifted with intellect to discover the astonishing powers of physical agents, such as are revealed by chemistry and mechanics, only that he may be enabled to build more houses, weave more webs, and forge more iron utensils, without any direct regard to his moral and intellectual improvement? If an individual, unaided by animal or mechanical power, had wished to travel from Manchester to Liverpool, a distance of thirty miles, he would have required to devote ten or twelve hours of time, and considerable muscular energy, to the task. When roads and carriages were constructed, and horses trained, he could by their assistance have accomplished the same end in four hours with little fatigue; and now when railways and steam-engines have been successfully completed, he may travel that distance without any bodily exertion whatever, in an hour and a-half. We ask, for what purpose has Providence bestowed the nine hours which are thus set free as spare time to the individual? we humbly answer, for the purpose of cultivating his rational nature. Again, before steam-engines were applied to spinning and weaving, a human being would have required to labour say for a month, in order to produce linen, woollen and cotton cloth, necessary to cover his own person for a year; in other words, the twelfth part of the time of each individual would have required to be spent in making raiment for himself, or in case of a division of labour, a twelfth part of the population would have required to be constantly engaged in this employment: by the application of steam, the same ends may be gained in a day. We repeat our inquiry, For what purpose has Providence bestowed the twenty-nine days out of the month, set free by the invention of the steam-engine and machinery? These proportions are not stated as statistically correct, but as mere illustrations of our proposition, that every discovery in natural science, and invention in mechanics, has for its direct tendency to increase to man the command of time, and to enable him to provide for his physical wants with less laborious exertion. The grand question constantly recurs, whether, in thus favouring the human race, the object of Providence be to enable them to cultivate and enjoy their rational faculties, or merely to reap more enjoyment from their propensities, by accumulating wealth, and all that it commands, in greater and more superfluous abundance? We again answer,—That the former is the object of the Creator, because

He is wise and good, and because He has bestowed on man intellectual and moral faculties which cannot be contented to grub for ever in the mine of mere wealth.

If this view be correct, then society in Britain is constituted at present on essentially erroneous principles. If we survey the lives of men in this country, we shall find that the effects of all the discoveries that have been made in arts and sciences has been to render the great mass of the people more busy, and more unremittingly occupied, in pursuits that bear reference chiefly to the support and gratification of the animal portion of human nature. Instead of every individual in society enjoying more leisure, and devoting more time than formerly to the cultivation of his moral and intellectual powers and the enjoyment of his rational nature, the great body of the people are greater slaves to toil than formerly; the only effect being an increase in the number of persons who live independently of all labour, and in the wealth and luxury diffused through society at large. The portion who have been rendered independent of labour, do not generally devote themselves to the improvement of the species as a business, but seek gratification to their individual feelings in such a way as best pleases themselves; so that society has not improved in its moral and intellectual aspects in a due proportion to its advance in ingenuity, mechanical skill, and industry. The great change, therefore, that remains to be accomplished is, that society at large should recognise man's rational nature as a divine institution, and practically allot time for its due cultivation and enjoyment. This can be accomplished only by masters and operatives uniting in abridging the hours of labour *every day*, and forming social arrangements by which the hours gained may be devoted to the acquisition of knowledge, and the exercise of the moral feelings. This ought to be practicable, if man be really a rational being: and to any one who declares the proposal to be utopian, enthusiastic, and absurd, we answer, that by maintaining such opinions he really degrades man into a mere labouring animal, and sets at naught his boasted adaptation for an immortal existence in a moral and intellectual sphere.

The effects of a limitation of labour of this kind would be to raise wages, to render trade more steady, and, above all, to increase the power, and elevate the aspirations, of the moral and intellectual faculties, by which means society would become capable of viewing its real position, and estimating fairly and dispassionately the proper value of its different pursuits. The real standard by which to estimate value, is the adaptation of any object to promote human happiness; and if happiness consists in the gratification of our rational powers, then it is clear that society is at present engaged in a blind pursuit of wealth, for its

own sake, and that it misses enjoyment in consequence of neglecting moral and intellectual cultivation.

We cannot at present enter into an exposition of the consequences, in a politico-economical view, of the present system of trade and manufactures pursued in this country, and of the beneficial influence of the restriction of labour which we recommend. We hear that a crisis of commercial embarrassment is again approaching, which we cannot contemplate without apprehension and commiseration; but without surprise. In Combe's *Constitution of Man*, p. 229, the following observations occur; "The labouring population of Britain is taxed with exertion for ten, twelve, and some even fourteen hours a-day, exhausting their muscular and nervous energy, so as utterly to incapacitate them; and leaving, besides, no leisure for moral and intellectual pursuits. The consequence of this is, that all markets are overstocked with produce; prices first fall ruinously low; the operatives are then thrown idle, and left in destitution of the necessaries of life, until the surplus produce of their formerly excessive labours, and perhaps something more, are consumed; after this takes place, prices rise too high, in consequence of the supply falling rather below the demand; the labourers resume their toil, on their former system of excessive exertion; they again overstock the market, and again are thrown idle, and suffer dreadful misery.

"In 1825-6-7, we witnessed the operation of the natural laws: large bodies of starving and unemployed labourers were then supported on charity. How many hours did they not stand idle, and how much of excessive toil would not these hours have relieved, if distributed over the periods when they were overworked? The results of that excessive exertion were seen in the form of untenanted houses, of shapeless piles of goods decaying in warehouses; in short, in every form in which misapplied industry could go to ruin.

"Here, then, the Creator's laws shew themselves paramount, even when men set themselves systematically to infringe them. He intended the human race, under the moral law, not to pursue acquisitiveness excessively, but to labour only a certain and moderate portion of their lives; and although they do their utmost to defeat this intention, they cannot succeed; they are constrained to remain idle as many days and hours, while their surplus produce is consuming, as would have served for the due exercise of their moral and intellectual faculties, and the preservation of their health, if they had dedicated them regularly to these ends from day to day, as time passed over their heads. But their punishment proceeds: the extreme exhaustion of nervous and muscular energy, with the absence of all moral and intellectual excitement, create the excessive craving for the sti-

mulus of ardent spirits, which distinguishes the labouring population of the present age; this calls into predominant activity the organs of the animal propensities, these descend to the children by the law already explained; increased crime, and a deteriorating population, are the results; and a moral and intellectual incapacity for arresting the evils, becomes greater with the lapse of every generation.

“According to the principles of the present essay, what are called by commercial men ‘times of prosperity,’ are seasons of the greatest infringement of the natural laws, and precursors of great calamities. Times are not reckoned prosperous, unless *all* the industrious population is employed during *the whole day*, hours of eating and sleeping only excepted, in the production of *wealth*. This is a dedication of their whole lives to the service of the propensities, and must necessarily terminate in punishment, if the world is constituted on the principle of supremacy of the higher powers.”

A few months will probably shew whether this description is to be again realized, after the short interval that has occurred since 1827. We did not expect it so early; but if the principle be correct, that the world is constituted in harmony with man’s rational nature, the recurrence of frightful calamity in consequence of his dedicating all his discoveries and energies to the service of mammon, is certain. The more extensive the departure from the path of nature, the more frequent and severe will be the punishment. Man will learn in time that he lives under a moral Governor, for misery will convince him of truths which reason at present proclaims in vain. In conclusion, we entreat of the operatives to bear in mind, that no human being can escape from the control of the laws impressed by the Creator on the moral and physical worlds, and that the project agitated by some individuals among them, of ceasing work for an extra day in the week, and devoting it to animal enjoyment, will only deepen their misery. This practice will debase their nature by profligate indulgences, and incapacitate them for rational conduct. The course pointed out by nature is to labour steadily every day, but to abridge the hours of toil, and to dedicate the hours gained to moral and intellectual pursuits. No essential good will be accomplished without this last accompaniment. Let them establish schools, libraries, lectures, and places for conversation and music, and commence by abridging their labour first by one hour a-day, thereafter by two, and so on, until the medium shall be reached in which that due degree of labour, which is necessary and agreeable, shall alternate with that moral and intellectual exercise which constitutes the true enjoyment of a rational being, and then they will discover that this world is worthy of its Divine Creator, and that it is admirably adapted to promote the happiness of man.

ARTICLE XIII.

DR CALDWELL ON A PRIMITIVE TRIBE OF AMERICANS,
AND ON PHRENOLOGY IN AMERICA.

To GEORGE COMBE, Esq.

TRANSYLVANIA UNIVERSITY,

DEAR SIR,

LEXINGTON, KENTUCKY, *January 22. 1831.*

OF the numerous arguments that may be adduced in proof of the truth of Phrenology, its extensive applicability to the solution of various phenomena in the history of man, not explicable on other grounds, is not the least weighty. This aptitude to expound, testifies that it is in harmony with nature, which puts the seal to its letter of credit. Nature is truth embodied. All that strictly conforms to it, therefore, is a part of that body, and is also true as a matter of course.

Besides shedding new light on the intellectual standing of the ancient Egyptians, and solving the enigma involved in the fact of a few thousand Europeans subduing and holding in subjection as many millions of Asiatics, the science has disclosed the cause of the diversities in the characters of different nations, and of the universal ascendancy of the Caucasian over the other varieties of the human race. This secret, moreover, when discovered, is, like most others, exceedingly simple, and intelligible to every one who views it without prejudice. It consists in the possession of a larger, better formed, and better balanced brain.

If I am not mistaken, Phrenology removes also somewhat of the obscurity which has hitherto concealed it, from another point that has been long and eagerly inquired into by many of the antiquarians of the United States. It may be comprised in two questions. Are the present North American Indians the true aborigines of the country they inhabit? If not, What was the character of their predecessors; how were they removed; and why are none of them now to be found?

From the numerous monuments of art, exhibiting marks of great antiquity, which are scattered throughout the valley of the Mississippi, it has been long considered evident that one of the two following propositions is true; either the existing race of Indians were once more cultivated, especially more devoted to building, and more skilful in it, than they are at present; or the country was inhabited by a different people, that are now extinct, or driven from the soil. That the latter proposition is alone entitled to credit, I am forbidden to doubt, by reasons which I shall assign.

The Indians are deeply versed in their own traditions, and, in that form, retain a knowledge of things and events that nearly concern themselves, especially if they have any bearing on their ancestry, with great tenacity, and no little accuracy. Yet, neither of the monuments themselves, the uses they were intended to subserve, the period of their erection, or the people who reared them, are they able to render the slightest account. When interrogated respecting them, they answer only in a spirit of ignorance, or in the wildness of fable. They deny, however, positively that they are the work of their own ancestors. An opinion delivered to that effect is even offensive to them, inasmuch as it implies that their forefathers *laboured with their hands*, a mode of employment which they deem degrading. In their estimation, the arts of hunting, fishing, and war, alone become the dignity of men. Nor do they readily condescend to follow any other. They even traffic chiefly to overreach and cheat, which renders that form of occupation a kind of warfare. Their women alone are destined to labour; and they consider them unequal to the task of erecting large structures.

Of the monuments referred to, one class consists of circular mounds, of various dimensions, and so ancient, as to have growing on their sides and summits, large trees which have flourished there for centuries. These were the cemeteries of the people who erected them, as we learn from their containing masses of human bones, generally in a far advanced state of decay. Most of those relics of a former race fall to pieces, as soon as they are exhumated and handled. But, fortunately, this is not the case with all of them. Many of them have sufficient cohesion and firmness to bear examination, and to be afterwards preserved in museums; and they speak conclusively, and to phrenologists intelligibly, of the character and probable fate of the people to whom they belonged.

You are aware that I allude to the bones of the head. I have examined a number of those ancient crania, and have been much gratified by the result, which I shall impart to you at present only in general terms. It is my intention to give hereafter a more detailed and comprehensive view of the entire subject.

All the crania I have seen taken from ancient mounds are *unusually small* and *ill shaped*. Yet they exhibit conclusive evidence of having belonged to *adults*. There is indeed good reason to believe, that, on account of their less compact structure, and greater liability to dissolution, the bones of persons of immature age that may have been deposited in the mounds, have long since mouldered and disappeared. Of all the ancient crania, moreover, of which I have been accurately informed, the same is true. They also are *small*, and of a *bad figure*. In size, their average proportion to the skulls of our present race

of Indians is not, I think, more than as *eight to ten*, perhaps not so much. In the intellectual region, their development is remarkably small. So is it in that of Combativeness; while the development of Cautiousness is very large. Destructiveness is moderate, and Constructiveness full. This discloses to you enough of the character of the people for my present purpose. You perceive clearly that they were an unwarlike race, with but very limited talents, little knowledge, a feeble character, and a propensity to build. The latter attribute accounts for the monuments of art they have left behind them, and the former for their being exterminated, or driven from their country, by an invading foe superior in war.

Such a foe they found in the sires of the existing race of Indians, who were, in all respects, superior to them; not only more brave and artful as warriors, but full of other resources for vanquishing an enemy. Of *their* leading developments, I communicated, a few years ago, to the Secretary of the Edinburgh Phrenological Society, a brief sketch, which was published in Vol. IV. of the Phrenological Journal. It shows that, in their faculties subservient to the purposes of war, they greatly surpassed the people whose crania are contained in the ancient mounds.

Thus, then, the matter seems to stand. In times long past (perhaps as early as the reign of Ramesis II.) the valley of the Mississippi was inhabited by a people slightly advanced in civilization, but feeble in war. The progenitors of the present race of Indians, arriving from some *officina virorum* (nobody knows where), invaded their territory, as the Goths and Vandals did that of the degenerate Romans, and commenced hostilities. Between foes so unequal in all martial qualities, the issue of the conflict could not be doubtful. The aborigines, though superior in numbers, must have been overthrown. Being thus vanquished, they were destroyed or banished; and the victors occupied the country as their own, in right of conquest. Nothing now remains to attest even the existence of the primitive race, but mounds and walls of earth; the former a repository of mouldering bones, and the whole covered with trees, vines, and herbage, and whatever else constitutes the growth of the forest. And even they will soon disappear beneath the hand of cultivation.

Suppose the aborigines not to have been exterminated, but driven from their country, to what place did they retreat? I know not; possibly to Mexico, where their descendants were conquered again by the Spaniards. The Mexicans were certainly an unwarlike race, else, numerous and dense as was their population, they could not have been subdued by a handful of Europeans. And such their cerebral development proclaims

them. As far as I have had an opportunity to acquire a knowledge of it, it is not much better than that of the people of whose skulls I have been speaking. Like that, it is wanting in the intellectual and martial organs.

Of the ancient Peruvians, the same is true. Had their development for war been equal to that of the North American Indians, numerous as they were, and therefore capable of acting in masses, and filling up with fresh combatants the places of those who fell in battle, they would have destroyed Pizarro and his followers in the first conflict. The fire-arms of the invaders could not have saved them. I repeat, then, that the North American Indians conquered their predecessors, the English conquered the Hindoos, and the Spaniards the ancient Mexicans and Peruvians, for the same reason. They possessed superior cerebral developments. This gave them more abundant intellectual resources, greater bravery and general strength of character, and therefore they prevailed. It is on the same ground that the Caucasians hold the ascendancy over the other races of men. A brain of larger dimensions and better form and balance gives them a higher standing and greater power.

Such are a few of the lights which Phrenology throws on events and other subjects not before understood, and, I may add, on the general history of our race. But I must not forget that I am writing to one much better informed on these matters than I am; and that, therefore, to him most of my remarks must be common-place.

As relates to Phrenology in the United States, its march, though slow, is *forward*; and so firm is its foot-hold, wherever it treads, that, like the sun in his course, it never recedes. I have known apostates from metaphysics, party-politics, and almost every form of theological belief; *but I have never known one from Phrenology*. To be once a phrenologist, with a correct and full understanding of the science, is to be so for ever. As soon shall such a person waver in his opinion about the existence of matter, as about the truth and paramount value of Phrenology. Each belief being the result of observation, and strengthened by the occurrences of every day, becomes a part of himself. Smatterers in the science may change, *because they are smatterers*. They change in all things, and nobody regrets it. Levity and fixity are incompatible qualities. Chaff is the sport of every veering breeze; while gold keeps its place in defiance of the tempest.

A word respecting my own connexion with Phrenology. Besides occasional discourses at other times, I lecture on it every winter to about two hundred young men of intellect and standing, assembled from thirteen or fourteen States of our Union; and I have no reason to be dissatisfied with the result. I am

now near the termination of a course of lectures to rather more than that number, and I am persuaded that there is not an *unbeliever* among them. Of former classes I might say the same. This is encouraging. It shows that, in attempting to acquire a knowledge of themselves, men are beginning to learn to control their feelings, dismiss their prejudices, and calmly consult observation and reason. And Phrenology asks for nothing more. All else that is desirable will follow as a natural consequence. In fine, the progress which the science is making even in this country, slow as it is, gives abundant proof, that seed is sowing in a spacious and, I doubt not, a fertile field, to bring forth, at last, and *realize*, as its fruit, a degree of improvement and happiness to the human race, which has scarcely heretofore entered into their *dreams*. Thus, while it shall furnish to its friends ample ground for triumph and rejoicing, it will "heap coals of fire on the heads" of its enemies, by "returning them good for evil."

With sentiments of high respect, I have the honour to be, dear sir, your obedient servant,

CH. CALDWELL.

ARTICLE XIV.

SIXTY PHRENOLOGICAL SPECIMENS, APPROVED AND DESCRIBED BY DR SPURZHEIM.

MR WILLIAM BALLY, artist, has attended Dr Spurzheim since 1829, and, under his direction, composed sixty miniature busts, each about three inches high, exhibiting the organs in a great variety of combinations. Many individuals complain of want of opportunity of acquiring practical skill in observing development, and to such persons these specimens will be found a very valuable acquisition. A printed description, prepared by Dr Spurzheim, accompanies them; so that by procuring the set, every one may study Phrenology in his own library, and exercise his eyes in discriminating differences of size and form. This exercise is of the greatest advantage in acquiring practical skill and knowledge, and we recommend it strongly to our readers. The whole set, with the descriptions, are sold for two guineas. We consider this the most valuable contribution which has been made to the science for several years.

The following are examples of the descriptions.

"No. 13.—A head with Acquisitiveness very large, with the organs of Alimentiveness, Combativeness, Self-Esteem, and Firmness, large, and with those of Cautiousness and Conscience-

tiousness very small, and with the organs of the intellectual faculties small."

"No. 27.—This is the head of a noble philosophic mind, with predominant organs of the moral and intellectual faculties, and with an unusual harmony of the animal and human powers; in short, a head in whose cerebral organization the Christian law is written.

"No. 28.—This head shews the difference between a superior retreating forehead on the left side, and an inferior perpendicular forehead on the right side, when measured from Constructiveness and Benevolence to Individuality. From the same line backward, both sides are of the same size and form.

"No. 29.—A very short miserable forehead, unfit for the manifestations of superior intellect; with the organs of Acquisitiveness, Cautiousness, Reverence, Marvellousness, and Secretiveness, large, while those of Combativeness, Self-Esteem, Hope, and Benevolence, are small."

NOTICES.

We regret to receive continued complaints of obstruction in the circulation of this Journal. We assure our subscribers that the fault does not lie with us. Each number is sent by us to London ten or fourteen days before the day of publication, and in all cases in which the copies do not reach their destination as early as the Magazines published on the same days, viz. 1st September, 1st December, 1st March, and 1st June, there must be neglect on the part of the booksellers. In ordering the Journal, it is necessary to specify the name of the publishers in London or Edinburgh. The excuse "not published," ought on no account to be admitted; for the Journal is regularly published in London on these days.

DR SPURZHEIM, after completing his course of Lectures in Dublin, went to France to spend the summer and autumn.

CATECHISM OF PHRENOLOGY.—This meritorious little work has reached a second edition. Several valuable additions have been made to it, particularly on the "modes of activity," and combinations. For comprehensiveness, brevity, and cheapness, the Catechism cannot be too highly commended.

UNITED STATES.—Our readers will be much gratified in perusing a letter from Professor Caldwell of Lexington, published in this Number. We have received an admirable phrenological pamphlet by him on "Penitentiary Discipline and Moral Education and Reform," published in Philadelphia, of which we shall give an account in our next Number. A much esteemed friend in Boston informs us, that the American edition of Combe's Constitution of Man has been completely successful. "Some of its doctrines have found the way into the pulpit. A gentleman of Philadelphia bought all the copies he could find, from 50 to 100, for distribution, believing he could not do more good."

DR ELLIOTSON.—We were delighted in perusing a Lecture on Insanity, by Dr Elliotson, reported in the Medical Gazette of 7th May 1831, in which he does ample justice to Phrenology, and great credit to himself, by demon-

strating, in a very able manner, its valuable application to the treatment of mental disease. We rejoice to learn that Dr Elliotson has obtained a medical chair in the University of London. This is another proof that a bold advocacy of Phrenology forms no bar to the advancement of a man of talent in his professional career, but the reverse.

DR MACINTOSH.—We have too long omitted to notice the manly and philosophical conduct of Dr Macintosh in regard to Phrenology. In his Practice of Physic, he does justice to it as the physiology of the brain, and in his lectures delivered to a numerous class of students in this city, he refers to it as the basis of the doctrine of insanity. They will, ere long, thank him for this as a valuable addition to his course.

DR WEIR'S LECTURES.—We understand that Dr Weir, Lecturer on the Principles and Practice of Medicine, Glasgow, while on the functions of the brain and nervous system, gave twelve lectures on Phrenology during last winter, which were received with much interest and attention by the pupils of his class, and a considerable number of gentlemen belonging to the city who had the privilege of attending that part of the course. The lectures were illustrated by the collection of busts and casts belonging to the Glasgow Phrenological Society. Dr W. is now giving a Popular Course on Phrenology.

GERMANY.—We have heard that a translation into German of the third edition of Combe's System of Phrenology is begun. Drs Gall and Spurzheim, apparently disgusted by the injurious treatment bestowed on them by their countrymen, to whom they in the first instance propounded their discoveries, never printed a word on the subject in their native language. Hence Germany, although the birth-place of Phrenology, possesses less information and fewer means of instruction on it than any country of Europe, except Russia and Spain. There are Phrenological works in French, English, Italian, Danish, and we rather think in Swedish; but in German there are none which we have heard of, except inaccurate reports of Dr Gall's early lectures by individual auditors. France, Britain, Italy, Denmark, and America, thank Germany for the greatest discovery ever made by human sagacity, achieved by one of her sons: Germany rejected the discovery, and expelled his person from her territory on account of it. She now proposes to borrow from Scotland a reflected ray of her own great luminary, whose brightness she could not bear while it shone directly upon herself! Truly a prophet hath no honour in his own country!

OLD SKULLS FOUND AT LEITH.—It was stated in the *Scotsman* newspaper of 13th April 1831, that in making an excavation in Constitution Street, for the purpose of forming a drain, large quantities of human bones had been discovered in a state of extreme decay. The writer of the paragraph supposes them to be the remains of those who fell at the siege of the town by the English army in 1559, and mentions that such of the skulls as he had examined were, "in Phrenological parlance, with one or two exceptions, badly developed, the animal developments preponderating greatly over the intellectual." The Phrenological Society possesses several Scotch skulls, which they have reason to believe to be two or three centuries old. The development of these is of a very inferior description, and gives countenance to the idea that the shape of the Scotch head has improved with the progress of civilization. We therefore requested a friend to inspect the skulls found at Leith, and this he has done accordingly. Of seven which he saw in the possession of the contractor, he reports that almost all have low narrow foreheads, with great depth and rotundity behind, breadth at the base, and remarkable deficiency above the position of the organs of Cautiousness and Causality. We doubt, however, the fact of these skulls being so ancient as the year 1559. It is not more than half a century since Constitution Street was formed. Part of it was carried through the church-yard of South Leith, and it was at this place that the bones were found. The probability therefore is, that the skulls are more recent than the siege of Leith,—a supposition which is strengthened by the circumstance that one of them is in an excellent state of preservation.

Such of our readers as may have an opportunity of procuring old skulls from fields of battle, would do service to Phrenology by transmitting them to the Phrenological Society.

BREMEN.—We return our best thanks to Dr Hirschfeld for the casts and life of Gesche Margaret Gottfried. They arrived too late for this Number; but shall be noticed in our next. This woman belonged to the middle ranks of society, and seems to have rivalled Burke and Hare in cool destructiveness. At Bremen, on 17th September 1830, she was sentenced to be decapitated for the murders, by poison, of her father and mother; her three children; her first and second husbands; her brother; Paul Thomas Zimmerman, betrothed as her third husband; Ann Lucy Meyerholtz; John Moses; the wife of Christopher Rumpff; the wife of Frederick Schmidt; Frederick Kleine, and several other individuals, perpetrated during a period of nearly twenty years. The organs of Secretiveness and Destructiveness are enormously large; Benevolence is small, and Veneration large.

THE PROGRESS OF PHRENOLOGY.—We solicit the serious consideration of any sensible man who may still continue to neglect this science in the hope that it will die away, to the facts before adverted to in these Notices. When medical professors and teachers are infusing a knowledge of it into the minds of their students as the physiology of the brain, and the press is sending forth publications in both hemispheres, applying it to human affairs as the philosophy of mind, it appears in a fairer way to become the established science of the next generation than to pass into oblivion, as some foolish persons still anxiously desire.

We regret that we are under the necessity of deferring the notice of Mr Dewhurst's Comparative Phrenology and several other articles till next Number. The poem "On the chief end of Man," although containing some clever verses, is not suited to our publication.

1st September 1831.

THE
PHRENOLOGICAL JOURNAL.

No. XXX.

ARTICLE I.

PHRENOLOGICAL SOCIETY OF PARIS.

A PHRENOLOGICAL SOCIETY has recently been established in Paris, which has published a Prospectus, Regulations, and List of Members. The list contains names of the highest respectability in medicine, philosophy, and law, in that city, with some members of both Chambers of the Legislature. The Society already consists of one hundred and ten members, of whom sixty-one are physicians. Among the members are found ANDREAL, Professor in the Faculty of Medicine of Paris; BLONDEAU, Dean of the Faculty of Law of Paris; BROUSSAIS, Professor in the Faculty of Medicine, and Chief Physician of the Val-de-Grâce; CADET, Mayor of the fourth *Arrondissement*; CARTIER, Civil-Engineer; CLOQUET (Jules), Professor of the Faculty of Medicine of Paris, and Surgeon to the Hospital of St Louis; DAVID, Sculptor, and Member of the Institute; FALRET, Physician to the Salpêtrière; FERRUS, Physician to the Bicêtre; FOCILLON, Assistant Physician to the Invalids; JULLIEN, Editor of the *Revue Encyclopedique*; LACOSTE, King's Counsel; LENOBLE, Head of the Department of Public Instruction; LUCAS, Inspector-General of the Houses of Detention in France; MOREAU, Inspector of the Prisons of Paris; PINEL, Physician; PONCELET, Professor in the Faculty of Law at Paris; ROSTAN, Physician to the Salpêtrière; SANSON, Surgeon to the Hôtel Dieu, &c. &c. We do not say that Phrenology has become more true since this Society bore testimony to its merits; but as the public in general in this country have rejected it entirely on the authority of men of established reputation, we exhibit the list of names appended to this Prospectus as authorities on the opposite side; and maintain that they are entitled to at least as great consideration throughout Europe as those of the

most distinguished opponents of our science. The observations of Professor Playfair, when speaking of the discovery of the composition of light by Sir Isaac Newton, ought never to be forgotten. "Though the discovery," says he, "now communicated, had every thing to recommend it which can arise from what is great, new and singular; though it was not a theory or system of opinions, but the generalization of facts made known by experiments, and though it was brought forward in a most simple and unpretending form, a host of enemies appeared, each eager to obtain the unfortunate pre-eminence of being the first to attack conclusions which the unanimous voice of posterity was to confirm." These observations are strictly applicable to the reception of Phrenology; and we hail the institution of the Parisian Society as hastening the day when it will be acknowledged that the opponents of Phrenology, who possess any philosophical reputation, have committed a capital error in staking their fame against its truth. The continuance of their credit as authorities against the science is injurious to the public welfare, because it operates as an obstacle to the diffusion of a system of momentous truth, and on this account we conceive it to be our duty to weaken it by every legitimate means. While young men entering upon the professions of medicine, divinity, and law, shall consider it as a mark of superior understanding to deride the discovery of the functions of the brain, they will turn a deaf ear to the most irrefragable evidence offered in its favour; they will carry forward into another generation the defective views, gross prejudices, and inaccurate deductions regarding the philosophy of man, which at present impede society in its social progress; and they will justify this adherence to error by the venerable authority of men of established reputation, who have pledged their credit as philosophers that Phrenology is in opposition to nature. The names and celebrity of the members of the Parisian Society, placed in the opposite scale, may induce the young to distrust their idols at home, and to undertake the duty of thinking for themselves. The Parisian physicians and men of science were aware of the general derision with which Phrenology had been treated, and that their authority could not support it if it were unfounded. The philosophers of the old school at home have purchased at a cheap rate the appearance of superior sagacity by rejecting a doctrine, the merits of which were unknown, and against which they could, by their authority alone, direct, for a time, the public contempt. The testimony of the Parisians, therefore, in favour of Phrenology, viewed as presumptive evidence, outweighs by a hundred fold the declaration of the latter against it. We conclude these remarks with the following observations of Galileo, which are to

be found in the second part of his Dialogue on the Copernican System. They are the production of a most vigorous understanding, and ought to be deeply pondered by every antiphrenologist.

"Being very young, and having scarcely finished my course of philosophy, which I left off as being set upon other employments, there chanced to come into those parts a certain foreigner of Rostoch, whose name, as I remember, was Christianus Urstius, a follower of Copernicus, who, in an academy, gave two or three lectures upon this point, to whom many flocked as auditors; but I, thinking they went more for the novelty of the subject than otherwise, did not go to hear him; for I had concluded with myself that that opinion could be no other than a solemn madness; and questioning some of those who had been there, I perceived they all made a jest thereof, except one, who told me that the business was not altogether to be laughed at: and because the man was reputed by me to be very intelligent and wary, I repented that I was not there, and began from that time forward, as oft as I met with any one of the Copernican persuasion, to demand of them if they had been always of the same judgment. Of as many as I examined, I found not so much as one who told me not that he had been a long time of the contrary opinion, but to have changed it for this, as convinced by the strength of the reasons proving the same; and afterwards questioning them one by one, to see whether they were well possessed of the reasons of the other side, I found them all to be very ready and perfect in them, so that I could not truly say that they took this opinion out of ignorance, vanity, or to show the acuteness of their wits. On the contrary, of as many of the Peripatetics and Ptolemeans as I have asked (and out of curiosity I have talked with many), what pains they had taken in the book of Copernicus, I found very few that had so much as superficially perused it, but of those who I thought had understood the same, not one: and, moreover, I have inquired amongst the followers of the Peripatetic doctrine, if ever any of them had held the contrary opinion, and likewise found none that had. Whereupon, considering that there was no man who followed the opinion of Copernicus that had not been first on the contrary side, and that was not very well acquainted with the reasons of Aristotle and Ptolemy, and, on the contrary, there was not one of the followers of Ptolemy that had ever been of the judgment of Copernicus, and had left that to embrace this of Aristotle;—considering, I say, these things, I began to think that one who leaveth an opinion imbuéd with his milk and followed by very many, to take up another, owned by very few, and denied by all the schools, and that really seems a great paradox, must needs have been moved, not

to say forced, by more powerful reasons. For this cause I am become very curious to dive, as they say, into the bottom of this business."

Prospectus of the Phrenological Society of Paris.

THE history of science, like the political history of nations, exhibits to us, at longer or shorter intervals of time, men of a superior order, who conceive a great idea, develope it largely, apply it boldly, and who leave behind them an indelible impression. Such a man was Gall. That great discoverer is no more; but his genius survives in the science which he has created. We owe it to him, that henceforward we shall study the intellect and passions of man, the intelligence and instincts of animals, not entrained in our views by blind superstitions, and metaphysical subtleties and prepossessions, but guided by the light of reason, and bound by no rule but the induction of pure philosophy. In the system of Dr Gall, we find organic and physiological facts, which for the first time enable the naturalist to draw the line of distinction between man and the lower animals, and by which man is demonstrated to be immeasurably the superior of the whole animated creation. Let us for a moment look back on the previous state of our knowledge of human nature.

The abstract study of man as pursued by the ancients, has been the source of the most inexplicable contradictions, and pernicious consequences to the human race. That abstract philosophy, which, originating in the East, obtained so great a reputation in Greece, and was supported by so much zeal in the new capital of Egypt, abounded with lofty conceptions, and with the sublime creations of a poetical fancy. But to what did it lead? The unhappy fruits of its popularity were the most intolerant dogmatism, and desolating scepticism; while the system was rendered imposing only, by a cloak of mysterious importance thrown over it by the mad enthusiasm of its professors.

It is difficult now to conceive, how, during the lapse of so many ages, so many attempts should have been made to arrive at a correct theory of the human mind, without the idea having ever occurred to any one of the celebrated philosophers of past times, to take *the brain* as the ground-work of their labours; that organ whose functions they were engaged in studying, but whose connexion with those functions they never recognised. It is indeed true, that some of them took notice of the wonderful structure of the cerebral mass, and even undertook the dissection of the brain, to which they professed to attach a high degree of importance; but their labours were nearly fruitless, for to them the brain appeared but a single homogeneous mass, undivided into separate organs. "What is the use of observation,"

said Bichat, "if we know not the seat of the disease?" What, in the same way, could be the value of observations made by men, who not only were ignorant of the seat of the different faculties, but to whom the idea had not even occurred as possible, that each of those faculties might depend for its manifestation on a particular portion of the cerebral substance. Thus did these great anatomists make no real progress in the study of the human intellect and passions. Succeeding ages were not more successful in founding a system which should substitute close observation of facts for mere arbitrary hypothesis.

Down to the days of Gall, the inquirer into the nature of the human mind, began his investigations by a forced abstraction of his own faculties from the whole external world, and then turning his intellectual powers inwards upon his own mind;—in profound reflection, and in the total inaction of by far the larger portion of his faculties, he fixed in his memory a picture of what he fancied to be the various phenomena of cerebral activity. It was with a crowd of ideas acquired in this manner, added to his previously received prejudices, that each philosopher, taking himself and his own individual constitution as the standard, formed his theory of the human understanding. Other philosophers, again, holding different views, sought for the origin of the human faculties in the impressions made on the senses, and these brought out ideas more distinct and positive; but, instead of regarding external sensations as merely necessary excitements to action of the internal organs of the different faculties, they considered the latter to result from the sensations themselves, and the brain was as yet vaguely believed to be, as a whole, the general seat of intelligence. As for physiologists, they were content to ascribe, in a general way, the origin of the passions to the influence of temperament, or to various viscera or organs of the body.

On the appearance of Gall, the science of mind assumed an entirely new aspect. Instead of studying the character and intellect of man in general, through the medium of himself, he began a series of observations upon individual men, and the lower animals. Instead of inventing an arbitrary system of faculties, Gall noted the relation between each organ, and the manifestations which he observed in the different individuals whom he examined; he distinguished between the general attributes of all or a variety of the faculties, and particular faculties themselves. Instead of inquiring whether an individual was well endowed with memory, imagination, judgment, or attention, (which are attributes common to a variety of intellectual powers), he observed his capacity for any, and what employment of those faculties; whether he most easily remembered places, or words, or persons, and so on. In a word, instead of an abstract and *à priori*, Gall

introduced an experimental or *à posteriori*, method of philosophising. He studied what are called morals, in the same way that we study physics; and he gave to the physiological science of mind that happy direction, to which the other natural sciences owe those splendid results which so honourably distinguish the latter part of the last century, and still more, the beginning of the present. The course which he has pointed out, is that which must be followed by all future philosophers, or they will infallibly continue to wander blindfold amidst error and absurdity.

But the system of Dr Gall cannot be properly understood until the inquirer shall know how to apply it with certainty. To attain this knowledge, a long and enlightened experience is absolutely necessary, and the results thence obtained are truly astonishing. Suppose that we wished to judge of the capacity of any individual, the general development of his head must first be considered, next the proportion which the anterior bears to the posterior regions, then the prominent parts in each region must be ascertained, and if a sufficient degree of experience have been acquired, the limits of the different organs should be specified. Thus, if it be known beforehand what allowance should be made for the influence of the viscera, the faculties and dispositions of the individual may be accurately determined. Such is the process that must be gone through before arriving at any thing positive, and Gall will be found to be a sure guide throughout. By this means it will be understood why one individual is distinguished for his success in poetry, music, mathematics, logic, eloquence, or metaphysics; why another is impelled by the noblest of human passions, that of desiring to sacrifice even his life for the sake of doing good; why another is insensible to the existence of danger; why this man sacrifices every thing to the desire of being thought eminent in some accomplishment which in reality he does not possess, while that man would give up all besides to gratify his thirst of rule; and finally, why some individuals can never attain to excellence, notwithstanding the greatest efforts, but remain for ever condemned to a humiliating mediocrity. But this is not all. When we are thoroughly convinced that those differences of disposition are the results of organization, we will congratulate the man whom nature has constituted favourably in that respect; and we will, on the other hand, regard with compassion him who has been less felicitously endowed. The same considerations will strengthen our feelings of indulgence towards the failings of our fellow-creatures, at the same time that they will shew the importance of an enlightened education, which shall aim at counterbalancing the depraved dispositions of a child, by exercising those organs and faculties which may tend to destroy their effects, and which may even frequently turn them to the advan-

tage of the individual who would otherwise have been their victim.

Such is the importance of Phrenology; but, at the same time, can it be said that the man whose genius has given it birth has succeeded in bringing it to perfection? Little attention, indeed, would in these days be paid to the man who should pretend to prescribe limits to any one of the sciences. No! Phrenology, like all the branches of medicine, is still imperfect; but, like them, it lays claim to stand on certain positive *data*, on fixed principles, and fundamental doctrines, which cannot be called in question, as being the results of testimony a thousand times repeated, of the whole united senses, elucidated by the simplest reasoning, and proved by the severest induction. So fully is this admitted to be the case, that now-a-days the study of Phrenology is no longer considered to belong exclusively to the physician, but begins to be looked upon as common to all the world.

Artists were perhaps the first to perceive the importance of our science; for it is a striking fact, that in the models of antiquity, the forms of the head are very often found in the most exact relation to the faculties of the gods and men whom the chisel of the artist has handed down in sculpture to posterity. What sculptor will not comprehend, that by means of Phrenology he may be able at a single glance to obtain a key to individual character? and that, in creating an ideal subject, he must be guided by the same principles? Will it ever occur to him to give to the figure of a Hercules the forehead of an Apollo? or would he place the head of a demon of cruelty on a statue intended to represent a character of pure benevolence? Were an artist to commit such an error, he would be considered a man of a superficial mind; and though, as a mere workman, he might be more or less rewarded for his skill, he would be treated as one who had not an idea of the true nature of his art, and who was without a single conception of its objects, or the means of accomplishing it. The same remarks are equally applicable to the kindred art of painting. The painter cannot too strenuously pursue the study of Phrenology: for he has only an even surface on which to delineate his objects, and he may fail in giving them the necessary expression, by neglecting those traits, which, however slight, are characteristic and necessary to bring out the distinguishing peculiarities of his subject. Moreover, Phrenology recognises a uniform relation, an intimate connexion between the habitual attitude of individuals and their predominant dispositions; and the painter who knows how to appreciate this influence of the cerebral organization upon the movements of the body, will be distinguished for the naturalness of the deportment and action of all his personages; while he who is a stranger to Phrenology runs a continual risk of falling into

the grossest inconsistencies. What would be thought of a medallion in which the predominating organs of its subject were not more strikingly developed than the rest? In this way, to all those arts which profess to present the exact image of man to the eyes of his survivors, Phrenology is most useful, and will in future be considered indispensable*.

It is now beginning to be perceived also, that, without physiology, the philosophy of mind cannot advance a single step; that a thorough knowledge of organization in general, and of that of the brain in particular, must be the foundation of all inquiries of that nature; that every attempt to explain intellectual and moral phenomena, which shall not take the principles of Phrenology for its basis, will inevitably be fruitless. On this subject all are agreed, spiritualist as well as physiologist, for, even according to the views of the former, the brain is a condition necessary to the manifestation of both intellect and sentiment, while, according to the latter, it is the vital organ of the intellectual and moral powers. It were out of place here to attempt to decide upon the superiority of either of those methods of reasoning; suffice it to say, that both are deeply interested in advancing the progress of Phrenology. Besides, this science explains the cause of this very difference of opinion on matters which, ever since man began to think and reflect, have divided the world. We cannot at the same time help noticing here, the sure consistency of the ideas furnished by Phrenology on this subject. How unerring and elevated are the views of the philosophical observer, who, contemplating man in the midst of his fellow-creatures, recognises and traces the reciprocal actions and reactions of different organizations! Should such a philosopher ever be called upon to give laws to his country, he will, far from setting at nought the uniform cravings inherent in certain organizations, be careful to avoid all excitements to infraction of municipal law arising from demanding of man more than his organization is capable of, and from sacrificing some of the faculties to the interests of some others: he will frame laws which shall be adapted to the real wants of the community, according to the variety of their nature, and not founded on false views of the equality and uniformity of the intellectual and moral facul-

* From ignorance of these principles, the ancients have, in some of their master-pieces, fallen into errors which are now considered monstrous, such as the extreme smallness of the head of the Venus de Medici. From the same cause, and from fear of failing in certain arbitrary proportions, the head of Napoleon has been reduced in size, without regard to the existence of an extraordinary cerebral development, of which Phrenology alone is capable of comprehending the importance, and appreciating the beauty. The ancients, when they concealed the enormous size of the head of Pericles, had the same end in view as the moderns, but were more faithful imitators of nature.

ties, for he will be familiar with those varieties of organization from which the differences of intelligence and resource arise.

Phrenology will be consulted also in the preparation of a penal code, for the nature of the punishments to be inflicted ought to bear a relation to the possibility, more or less admitted, of correcting and ameliorating the guilty. A great latitude will thus be allowed, in order that he whose organization does not indicate his propensities to be incurably strong, may one day, when their influence shall have been abated by well-directed training, be restored to his place in that society of which he shall be no longer unworthy; whilst the unfortunate being in whom the excessive and fatal preponderance of certain organs over those of the intellect, or the almost total absence of the latter, shall leave no hope of improvement, will be kept separate from the former class of moral patients, and will be prevented for ever from returning into that society of which he can only be the pest.

But the department in which Phrenology is most necessary, and is destined to produce the happiest results, is that of Education. Here the extent of its application will be prodigious. How should that science fail to be of primary importance to a teacher, which should enable him to turn the studies of his pupils into the proper channel, and to have a thorough knowledge of their characters; which should inform him with certainty that such a one has a decided talent for drawing, such another for languages, a third for calculation, and a fourth for poetry; and which should warn him that it would be a loss of time to urge the progress of a fifth in a particular direction! How many tears would not be spared to childhood! How many vexations would not the teacher himself escape! And who will presume to foretell the results of a system of education, in which, by proper direction, those dispositions shall be turned to the advantage of an individual, which would otherwise have been the cause of his inevitable destruction? When a child is born with a particular development of brain, if he be left altogether to himself, he will become cruel and ferocious, and perhaps commit murder. What does an able instructor do in such a case? He endeavours to place beyond the reach of his pupil all objects calculated to call into action the organs of his most dangerous propensities, and to present to him only those of an opposite tendency. He strongly calls his attention to the charms of an amiable disposition, to the affection which it generates towards itself, to the praises which it calls forth, and, above all, to the internal complacency with which it never fails to bless its possessor. Such representations, exhibited to the infant's mind incessantly, and in a thousand different ways, incline him to make an effort at amiability. He is praised for his first virtuous acts; he is skilfully encouraged to persevere in

the same line of conduct. Even accidentally, and as opportunity offers, he is made to feel, by some striking example, the melancholy and deplorable effects of indulging criminal passions; and, by assiduous and long continued care, the result, after years of perseverance, is, that he becomes a man of courage and coolness, who is not to be diverted from a useful enterprise by feelings of too great sensibility, but who, actuated by those principles of virtue which have gradually become his constant guide, will refrain from indulging in any act of cruelty.

Such is the happy influence which Phrenology will exercise over the development of childhood; but is not education also useful at all ages and at every stage of life? Youth and mature age are not necessarily incorrigible. The attempt is then, without doubt, more difficult, but still success is not impossible. Let us suppose a man to be of a passionate temperament: Phrenology informs him that there exists within him a disposition, the result of organization, hurrying him blindly on to all the violence of passion. If, besides, he be endowed with reason, that is to say, if he be not deficient in the intellectual organs, will he not keep himself on his guard against the causes which inflame his passion? Knowing that the chief cause exists in his own constitution, will he not strive to yield less and less to the influence of causes which are external? And will he not, consequently, succeed at last in weakening his own tendency to paroxysms?

It would require much more than our present limits to enter fully here into the services which Phrenology will be the means of rendering to human society, as soon as it shall be universally known, and appreciated as it ought; all that we aim at is, to call attention to the nature and importance of its assistance, in order that all those who are actuated by a desire of doing good, and who consider it a duty to contribute to the amelioration of our social condition, and of the human race in general, may concentrate their exertions in maintaining, spreading, and bringing it to perfection.

It is with such views of benevolence and general utility, that the Phrenological Society of Paris has been formed. It is composed, not of medical men only, but of men of the world in general, of men of science, and artists, who, though strangers to the study of medicine, are not the less anxious to diffuse the lights of Phrenology. For this purpose, and to encourage improvements in the science, the society meets twice every month, and hears all communications regarding the object of its labours. It confers annual prizes; publishes a journal to enable its readers to keep pace with the progress of the science, and to collect important phrenological facts, and the most interesting memoirs on the same subject. It is establishing also a phre-

nological museum, to contain a collection of all the remarkable crania which it can collect, and also a good selection of plaster casts.

Actuated by the wish to perform worthily the task bequeathed by Gall to his adopted country, the Phrenological Society calls upon all the friends of science and humanity to communicate the results of their observations, and lend their aid by all the means in their power. It is only astonishing that France has so long delayed to profit by the labours of Gall, and to advance the impulse which he first communicated, while already, and for a long time past, in England, in Scotland, in Ireland, in the United States, in India, and even in Italy—that land of despotism, religious and political, Phrenology has been cultivated with the greatest ardour and the most encouraging success. Why should we, then, continue to lag behind the other nations in a branch of science so important? Our appeal, we doubt not, will be heard by our countrymen; and we shall see treasures brought to light, hitherto hidden only because the time had not arrived for their being turned to account.

We entreat all philanthropists to keep themselves alive to this subject, and transmit to us their observations, and we will take care that they shall be made known to the public. We request medical practitioners, directors of prisons, of penitentiaries, of houses for the insane, and the instructors of youth, to collect facts and send them to us; nothing shall be lost; every thing shall be turned to profit, concentrated, and compared, and an *art* realized by means of the *science* of Phrenology, which shall spread abroad and become practically useful to society.

Regulations of the Phrenological Society of Paris.

GENERAL DISPOSITIONS.

Sect. I. The Society is instituted with the intention of propagating and improving the doctrine of Gall.

Sect. II. It is occupied with the consideration of human and comparative anatomy, the nervous system in general, and the brain in particular; as also their physiological and pathological phenomena.

Sect. III. It offers prizes, and bestows medals of encouragement.

Sect. IV. It forms a collection of skulls, and of plaster casts of skulls, &c. of portraits, of drawings, and of all the works fitted to throw light upon the doctrine of Gall.

Sect. V. The members of the Society who wish to give courses of lectures may make use of all the articles belonging to the society for their demonstrations, on requesting them from the Council of Administration.

Sect. VI. The Society publishes a journal, which will be sent gratis to all ordinary (titulaires) members. The price of subscription for the public will be afterwards fixed by the Society.

ORGANIZATION OF THE SOCIETY.

Art. 1. The Society is composed of ordinary members, honorary members, and corresponding associates, native and foreign. Their number is unlimited. The ordinary members alone have a deliberative vote.

Art. 2. In order to be an ordinary or corresponding member, it is necessary to be presented by two ordinary members, provided with a written request from the candidate. Admission will be given by the votes of two-thirds of the members present, taken by secret ballot, at the sitting which follows that of presentation.

Art. 3. The Society has a Council of Management, composed as follows: A Cabinet Council; a Committee for the editing of the Journal; a Committee of Funds.

Art. 4. The Cabinet-Council consists of a president, two vice-presidents, a general secretary, two secretaries for the minutes (proces verbaux), a treasurer, and a keeper of the museum (materiel) of the Society.

Art. 5. The Cabinet-Council names directly the committees; nevertheless, on the requisition of three members, put to the vote, and carried by the majority of the meeting, the committees shall be named by the Society by a majority of votes, and that by secret ballot.

Art. 6. No person shall be named on a committee to examine a work which he himself presents in the name of the author.

Art. 7. The Committee for the editing of the Journal is composed of three ordinary members; they have in charge the superintendence, and are joint editors of the Journal. The president and general secretary are added to their number.

Art. 8. There is a principal editor of the Journal, who is chosen from the ordinary members. He has only a consultative voice in the Journal Committee.

Art. 9. The principal editor shall be named annually by secret ballot. He may be re-elected.

Art. 10. The Journal is published monthly. Its contents shall be, 1. An analysis of the proceedings of the meetings; 2. Memoirs and other papers which the Society shall resolve to publish; 3. Articles sent for the Journal; 4. A bibliographical bulletin.

Art. 11. The Committee of the Journal shall meet at least once a month; they shall name a reporter of all the articles which have not been read at the meetings of the Society, and they shall not publish them without the Society's authority.

Art. 12. The Committee of Funds is composed of three ordinary members; they authorize the expenditure, and superintend and control the acts of the treasurer.

Art. 13. The treasurer reports the state of the funds every month, and renders his accounts every year, at the meeting for nominating the Cabinet.

Art. 14. The keeper of the museum keeps a register, in which are inscribed accurately the articles which are entrusted to him by the Society, and renders an account of their state annually, at the nomination of the Cabinet Council.

Art. 15. The Council of Management is renewed every year, at the second meeting for the session. The members may be re-elected, with the exception of the president, who cannot be re-elected till after an interval of two years.

Art. 16. The Society shall strike tickets (*jetons*) of presence, bearing the portrait of Gall; and on the reverse the title and year of the foundation of the Society, with this motto—*AUX PROGRES DES LUMIERES*.

Art. 17. The tickets of presence shall be of the value of four francs. Attendance at four meetings entitles to a ticket of presence.

Art. 18. Every member of the Society shall have a diploma, bearing the same emblems as the ticket. The price of the diploma is ten francs for ordinary and corresponding members. The diploma for honorary members shall be gratuitous.

Art. 19. The Society shall meet on the second and fourth Tuesday of every month, at seven o'clock in the evening.

Art. 20. On the 22d of August every year, the anniversary of the death of Gall, the Society hold a general public meeting, in which the general secretary gives an account of the labours of the Society, reads notices of the members which it has lost, and proclaims the names of those whom it has honoured, announcing the prizes which it proposes to bestow.

Art. 21. Every ordinary member contributes an annual sum of thirty-six francs, which he pays in advance, by three monthly instalments.

Art. 22. Any member who, for an entire year, shall not have paid his quota, shall be held as having resigned.

Art. 23. Three members may demand and obtain a secret ballot in every deliberation.

Art. 24. No deliberation shall be entered upon, unless there are at least ten members present at the sitting.

Art. 25. During the months of September and October, tickets of presence shall not be distributed; but the meetings shall take place in these as in the other months.

Art. 26. Two members may demand and obtain a revision of

the rules of the Society, if their motion is carried by the votes of two-thirds of the members present.

Resolved by the Phrenological Society of Paris at the sitting of the 14th January 1831.

(Signed) M. DANNECY, President.

CASIMIR BROUSSAIS, General Secretary.

List of the Members of the Phrenological Society of Paris, as at 25th April 1831.

MM.

ABRAHAM, Médecin.
AMUSSAT, *idem*.
ANDRAL (fils), Professeur à la Faculté de Médecine de Paris.
APPERT, Editeur du Journal des Prisons.
BARES, Graveur en Médailles.
BAILLIERE, Libraire.
BAZILLE, Propriétaire.
BENOIT, Avocat.
BERTHON, (J. B.), Propriétaire.
BESNARD, (l'Abbé).
BEUGNOT (fils), Homme de Lettres.
BLONDEAU, Doyen de la Faculté de Droit de Paris.
BOUILLAUD, Médecin, *Rédacteur principal du Journal de la Société*.
BRIERE DE BOISMONT, Médecin.
BROUSSAIS, Professeur à la Faculté de Médecine, Médecin en chef du Val-de-Grâce.
BROUSSAIS (Casimir), *Secrétaire-Général*.
BRUYERES (Léon).
CADET-GASSICOURT, Maire du 4e Arrondissement.
CANUET (fils), Médecin de Sainte-Périne.
CARTIER, Ingénieur-Géomètre.
CHAPELAIN, Médecin.
CLOQUET (Jules), Professeur à la Faculté de Médecine de Paris, Chirurgien de l'Hôpital Saint-Louis.
COMTE, Professeur de Philosophie à l'Athénée.
CORBY, Médecin.
DANNECY, Médecin, *Président*.
DAUVERNE, Médecin.
DAVID, Sculpteur, Membre de l'Institut.
DELAFOREST (Pihan), Imprimeur.
DESMAREST père.
DESMAREST fils.
DEVILLIERS, Médecin.
DINOCOURT.
DOIN, Médecin.
DUBUISSON, *idem*.
DUMOUTIER.

MM.

DUPUIS, Médecin.
FALRET, Médecin de la Salpêtrière.
FERRUS, Médecin de Bicêtre.
FOCILLON, Médecin adjoint des Invalides.
FOISSAC, Médecin.
FONTANEILLES, *idem*, *Vice-Président*.
FORGET, Médecin.
FOSSATI, *idem*, *Vice-Président*.
FOVILLE, Médecin.
FOYATIER, Sculpteur.
FRAPART, Médecin, *Archiviste*.
GUERARD, Sculpteur.
HAREL, Manufacturier, *Trésorier*.
JAQUEMIN, Médecin des deux Forces.
JOLLY, Médecin.
JULLIEN, Directeur de la Revue Encyclopédique.
KOREF, Médecin.
LACORBIERE, *idem*.
LACOSTE, Avocat au Conseil du Roi.
LAMAZE, Notaire.
LAMOUROUX, Médecin.
LANYER, *idem*.
LAROCHÉ, *idem*.
LAS CASES (Emmanuel) Député.
LASTEYRIE (le Comte).
LEBAUDY, Banquier.
LEBLOND, Médecin.
LEGALLOIS, *idem*.
LELOUTRE, Médecin-dentiste.
LELUT, Médecin.
LENOBLE, Chef de Bureau au Ministère de l'Instruction Publique.
LOISILLON, Propriétaire.
LOMBARD, Médecin.
LONDES, *idem*.
LUCAS, Avocat, Inspecteur-Général des Maisons de Détention de France.
MACHADO, Diplomate.
MATHIAS, Ancien Pharmacien.
MAURIN, Médecin.
MEGE, *idem*.
MONDIERE, *idem*.
MONNOYE, *idem*.
MONTEBELLO (le Duc), Pair de France.

MM.	MM.
MOREAU, Inspecteur des Prisons de Paris.	ROSTAN, Médecin de la Salpêtrière.
MOREAU, fils, Architecte.	ROYER, Secrétaire en Chef de l'Administration du Jardin des Plantes.
MOYNIER, Médecin.	SANSON aîné, Chirurgien de l'Hôtel-Dieu de Paris.
NOEL GIRARD, (le Colonel, Baron), Commandant de la Garde Municipale de Paris.	SAINT-AIGNAN (Auguste), Député.
PARISSET, Médecin de la Salpêtrière.	SARLANDIERE, Médecin.
PICHARD, Médecin.	SMITH, Propriétaire.
PILLIOT, <i>idem</i> .	SORLIN, Médecin.
PINEL GRANDCHAMP, <i>idem</i> .	TANCHOU, <i>idem</i> .
PONCELET, Professeur à la Faculté de Droit de Paris.	TEISSIER, <i>idem</i> .
PRESSAT, Médecin, propriétaire d'une maison d'aliénés.	TERNAUX, Député.
REGLEY, aide Naturaliste.	THIERY fils, Médecin.
RIBES, fils, Médecin.	THOMAS, Peintre.
RICHY, <i>idem</i> .	TREILLE, Médecin.
ROBERTON, <i>idem</i> .	VIGUIER, Adjoint à la Mairie du 4e Arrondissement.
ROBOUAM, <i>idem</i> .	VOISIN, Médecin, propriétaire d'une Maison d'Aliénés.
	WURTZ, Libraire.

The Phrenological Society meets the second and fourth Tuesday of every month, in the saloon of M. Appert, Quai d'Orsay, No. 3, at seven o'clock in the evening.

N. B. Letters and packages (free), may be addressed to the General Secretary of the Phrenological Society of Paris, Rue de l'Université, No. 25.

ARTICLE II.

CORRESPONDENCE BETWEEN SIR G. S. MACKENZIE, BART. AND THE LATE DUGALD STEWART, ESQ.

THE following correspondence between Sir George Stewart Mackenzie and the late Dugald Stewart, Esq. took place in the year 1821, but the publication was delayed during the life of Mr Stewart, from motives of delicacy towards him. Since his death, no reason exists for withholding it from the public, and we now present it to our readers with the approbation of Sir G. S. Mackenzie.

I. Sir G. S. MACKENZIE, Bart. to DUGALD STEWART, Esq.

DEAR SIR,

Edinburgh, 5th September 1821.

Your high philosophical reputation invests with authority every sentence that proceeds from your pen; and, on this account, I trust you will excuse my present intrusion. In a note to your Dissertation in the Supplement to the *Encyclopædia Britannica*, you say, "Is there no Arbuthnot now to chastise the follies of our Craniologists?" As I am, probably, the only

I think this is all I was empowered to write; but I must beg leave to add best compliments and best wishes, in which Mr Stewart most cordially joins, to you and to Lady Mackenzie, who, I hope, is now much better, and likely soon to get entirely free of the cruel rheumatism, which we grieved to hear she had suffered so much from. Believe me, dear Sir George, yours most sincerely,

HELEN D'ARCY STEWART.

KINNEIL HOUSE, 12th September 1821.

3. *Sir G. S. MACKENZIE, Bart. to DUGALD STEWART, Esq.*

DEAR SIR,

Edinburgh, 15th September 1821.

It is with much regret that I have learned from Mrs Stewart, that you are unable to write, and that rheumatism, which has been so general a complaint during the season, has reached the retirement of Kinneil.

I trust that you will once more excuse my intruding upon you, with the subject of your exclamation against the craniologists. It was a matter of course, that I could not imagine it to have been addressed to me in particular; but it must be supposed by the public to be addressed to me among others; and I hope you will forgive me for thinking, that, even on this account, when you employ the words "follies" and "chastisement," an obligation rests upon you to explain what it is that has called forth such expressions of severity from you. But I desire above every thing, that my motive for addressing you should not be considered a personal one. It is a matter of small moment to the public, whether or not I have embraced views which appear to you to be follies, deserving of chastisement; and if this were the only point at issue betwixt us, you might rest assured that you should not have been troubled with any farther communication from me. I do not ask, since you have declared that your exclamation was not directed against me, against whom it was directed; because higher interests are concerned than mere personal considerations; and these interests embolden me to trouble you with a few additional remarks.

You, who have so ably and eloquently recorded the progress of philosophical opinions, know well how unfortunate the reception of the greatest and most valuable discoveries has generally been, and with how small a portion of justice, not to speak of generosity, their ingenious authors have been treated while they lived. In your various writings, you have pronounced the severest censures on this most cruel and prejudicial of all the displays of human ignorance and malignity; and I feel convinced, that you would be the last person in the world, knowingly to follow such a line of conduct yourself, or to countenance it, by approval, in others; and yet, if Dr Gall's system shall be ac-

knowledge to be true, you will be found, in the sentence in question, to have raised a standard, under which the envious and the ignorant may range themselves, for the mere purpose of adding to the already accumulated, and I will say unmerited, injuries which have been inflicted on that individual, and on his coadjutor Dr Spurzheim. I confess, that on reading the sentence of which I complain, its terms made me hesitate to suppose, that, on the principles of your own philosophy, you had made yourself certain, before writing it, that the doctrines you attack were truly destitute of foundation. It appears to me now, from your own information, that you have scarcely bestowed upon the subject, all the attention it required. I am informed, that "it is now more than fifteen years since Dr Gall's system was explained to you, by some of its most devoted disciples both at home and abroad." Am I to understand by this, that you have not read the publications of Dr Gall, Dr Spurzheim, Mr Combe, Mr Foster, or my own; and that all you know of the science is from oral communications? And am I to believe that you have not made yourself acquainted in any degree, with the progress of Phrenology, during the long period of fifteen years? Such I understand to be the import of your communication; but if it be not so, I trust I am doing you all the justice in my power, in giving you another opportunity for explanation. If, however, my understanding of your meaning be correct, I beg of you to consider, whether this was such a mode of studying the principles of a new system of the philosophy of man, as to authorise you to condemn it in the terms you have employed? You would not, I am sure, have justified a follower of Descartes, for expressing his contempt of the doctrines of Locke, upon such an acquaintance with them as this.

Not only in your *Elements of the Philosophy of the Human Mind*, but in your *Dissertation*, you mention the propriety of inquiries into the "laws of union between the mind and the body, and the mutual influence they have upon one another;" and in the latter publication, you quote, with approbation, the observation of Dr John Gregory, that "this is one of the most important inquiries that ever engrossed the attention of mankind, and almost equally necessary in the sciences of morals and of medicine." This being the end pursued by phrenologists, and its importance having been fully admitted by you, the next inquiry ought to be, Whether the means employed by phrenologists are philosophical, and calculated to attain the object in view? Allow me then to ask, do you controvert the principles which I stated in my former letter? Or, in the course of your extensive metaphysical reading, have you met with any views which promised better than those of Phrenology, to lead to valuable results? If you admit these principles,

I think this is all I was empowered to write; but I must beg leave to add best compliments and best wishes, in which Mr Stewart most cordially joins, to you and to Lady Mackenzie, who, I hope, is now much better, and likely soon to get entirely free of the cruel rheumatism, which we grieved to hear she had suffered so much from. Believe me, dear Sir George, yours most sincerely,

HELEN D'ARCY STEWART.

KINNEIL HOUSE, 12th September 1821.

3. *Sir G. S. MACKENZIE, Bart. to DUGALD STEWART, Esq.*

DEAR SIR,

Edinburgh, 15th September 1821.

It is with much regret that I have learned from Mrs Stewart, that you are unable to write, and that rheumatism, which has been so general a complaint during the season, has reached the retirement of Kinneil.

I trust that you will once more excuse my intruding upon you, with the subject of your exclamation against the craniologists. It was a matter of course, that I could not imagine it to have been addressed to me in particular; but it must be supposed by the public to be addressed to me among others; and I hope you will forgive me for thinking, that, even on this account, when you employ the words "follies" and "chastisement," an obligation rests upon you to explain what it is that has called forth such expressions of severity from you. But I desire above every thing, that my motive for addressing you should not be considered a personal one. It is a matter of small moment to the public, whether or not I have embraced views which appear to you to be follies, deserving of chastisement; and if this were the only point at issue betwixt us, you might rest assured that you should not have been troubled with any farther communication from me. I do not ask, since you have declared that your exclamation was not directed against me, against whom it was directed; because higher interests are concerned than mere personal considerations; and these interests embolden me to trouble you with a few additional remarks.

You, who have so ably and eloquently recorded the progress of philosophical opinions, know well how unfortunate the reception of the greatest and most valuable discoveries has generally been, and with how small a portion of justice, not to speak of generosity, their ingenious authors have been treated while they lived. In your various writings, you have pronounced the severest censures on this most cruel and prejudicial of all the displays of human ignorance and malignity; and I feel convinced, that you would be the last person in the world, knowingly to follow such a line of conduct yourself, or to countenance it, by approval, in others; and yet, if Dr Gall's system shall be ac-

known to be true, you will be found, in the sentence in question, to have raised a standard, under which the envious and the ignorant may range themselves, for the mere purpose of adding to the already accumulated, and I will say unmerited, injuries which have been inflicted on that individual, and on his coadjutor Dr Spurzheim. I confess, that on reading the sentence of which I complain, its terms made me hesitate to suppose, that, on the principles of your own philosophy, you had made yourself certain, before writing it, that the doctrines you attack were truly destitute of foundation. It appears to me now, from your own information, that you have scarcely bestowed upon the subject, all the attention it required. I am informed, that "it is now more than fifteen years since Dr Gall's system was explained to you, by some of its most devoted disciples both at home and abroad." Am I to understand by this, that you have not read the publications of Dr Gall, Dr Spurzheim, Mr Combe, Mr Forster, or my own; and that all you know of the science is from oral communications? And am I to believe that you have not made yourself acquainted in any degree, with the progress of Phrenology, during the long period of fifteen years? Such I understand to be the import of your communication; but if it be not so, I trust I am doing you all the justice in my power, in giving you another opportunity for explanation. If, however, my understanding of your meaning be correct, I beg of you to consider, whether this was such a mode of studying the principles of a new system of the philosophy of man, as to authorise you to condemn it in the terms you have employed? You would not, I am sure, have justified a follower of Descartes, for expressing his contempt of the doctrines of Locke, upon such an acquaintance with them as this.

Not only in your *Elements of the Philosophy of the Human Mind*, but in your *Dissertation*, you mention the propriety of inquiries into the "laws of union between the mind and the body, and the mutual influence they have upon one another;" and in the latter publication, you quote, with approbation, the observation of Dr John Gregory, that "this is one of the most important inquiries that ever engrossed the attention of mankind, and almost equally necessary in the sciences of morals and of medicine." This being the end pursued by phrenologists, and its importance having been fully admitted by you, the next inquiry ought to be, Whether the means employed by phrenologists are philosophical, and calculated to attain the object in view? Allow me then to ask, do you controvert the principles which I stated in my former letter? Or, in the course of your extensive metaphysical reading, have you met with any views which promised better than those of Phrenology, to lead to valuable results? If you admit these principles,

orgive me for asking, Have you acted upon them, and found in nature facts contradictory of the assertions of Dr Gall? This system, you say, had been explained to you by its admirers fifteen years ago, and you are aware that the number of its adherents have greatly increased during that period. Seeing, then, that the whole question resolves into a matter of fact, does not the statement of the principles formerly given, joined to the continued and multiplying testimony of the disciples to the truth of the facts on which they are founded, create such a *prima facie* presumption in favour of the doctrines, as to render a fair exposition of objections incumbent on every philosopher who speaks of the "*follies*" of these doctrines, and who calls for chastisement upon those who adhere to them? I deeply regret, that your mode of treating them, invites, on the contrary, every pert and shallow scribbler to vent his spleen and his wit against them under the shelter of the name of Mr Dugald Stewart! And I fear, (but not on the account of Phrenology,) that time will soon shew, that many, who might have hesitated to enter the lists of argument with the phrenologists, will think themselves safe under the shelter of your example, to substitute abuse for argument.

In concluding, permit me to observe, that if by any accident you wrote on a superficial acquaintance with the subject (which every circumstance induces me to think that you did), it will be but bare justice on your part to say so, in order that the proper degree of weight, and no more, may be attached to your sentence of condemnation. If, on the other hand, you deliberated fully before you pronounced your sentence, a due regard to the interests of truth and of philosophy, appears equally to require an exposition of the objections which occurred in the course of your reflections, and which led to your resolution to use the harsh terms you have employed.

If, contrary to my most earnest request, you decline both to state the ground of your censure, and to modify it, you will excuse the supporters of Phrenology for endeavouring to do themselves justice through the medium of the press; and, although the example you have set to them (it is a high one) might justify them in employing harsh epithets instead of argument and fact, I trust that, in speaking of your doctrines, they will conduct their discussion with that respect which is justly due to your name, as well as to your age.—I am, dear Sir, sincerely yours,

G. S. MACKENZIE.

DUGALD STEWART, Esq.

4. *Mrs STEWART to Sir G. S. MACKENZIE, Bart.*

DEAR SIR GEORGE,

Mr Stewart employs me to say, that he is extremely sorry you should have taken the trouble to write again, on a subject where correspondence can be of no use. His opinions, whatever

they are, *he* alone is responsible for, and if he has formed an erroneous judgment with regard to craniology, so much the worse for himself. Mr Stewart always disliked letter-writing, and letters of controversy he *never* wrote. Indeed, if he had replied to half the literary expostulations he received, he could have done nothing else ; but as he never troubled any one with his letters, he felt himself at liberty to decline all discussion. In the present case, nothing was more remote from his intention than to give offence to any mortal, far less to you, whom he has always considered with the kindness of a friend. If he had discussed the subject, and misrepresented it, blame might well have attached to him, but in conveying merely *his own* impressions, he was not aware of committing any injury. Mr Stewart begs his best wishes. I am, &c.

H. D. STEWART.

KINNEIL HOUSE, 20th September 1821.

ARTICLE III.

THE LONDON PRESS AND THE PHRENOLOGICAL JOURNAL.

WE have often complained of the misrepresentations of our facts and arguments to which the opponents of Phrenology resort ; and we have now to call the attention of our readers to one of the most glaring examples of this practice which has even yet occurred.

In Numbers 28 and 29 of the Phrenological Journal, a translation is given of a memoir, published in Majendie's *Journal de Physiologie*, so long ago as April 1830, by M. Bouillaud, detailing certain experiments performed *by him* on some of the inferior animals, with a view to ascertain the functions of the brain. The editor of the *Literary Gazette*, in his paper of 10th September, after passing a high eulogium upon himself, was pleased not only to suppress the fact that the experiments were French, and were brought forward by one, who, previously to their publication, had agreed with Magendie in styling Phrenology a pseudo science ; but actually to ascribe them all to the phrenologists themselves, and to stigmatize them as "abominable cruelties," "cold-blooded barbarities," and "phrenological butcheries," performed by "atrocious professors." We addressed the following letter to the Editor of the *Literary Gazette*.

TO THE EDITOR OF THE LITERARY GAZETTE.

SIR, Edinburgh, 16th September 1831.

THE *Literary Gazette* of 10th September contains a notice of the Phrenological Journal and Miscellany, No. 29, which

is scarcely in accordance with the high professions of regard for "the scientific progress" and "general improvement of the country" on your part, with which it is prefaced; at least it is in direct opposition to justice. It is now nearly ten years since you were pleased to visit with gross abuse some works on Phrenology which are at present supported by public approbation in third editions; and on 18th September 1823, you sent forth a criticism, in which you spoke of the phrenologists as "a tribe of crazy sciolists, denominating themselves craniologists," you styled them "visionary abortions," "this crew," and applied to them many other terms equally consistent with philosophical decorum. That on 10th September 1831, you should find the Phrenological Journal subsisting and extending to its seventh volume, and 29th quarterly number, seems to have produced a bitter recollection of your unsuccessful efforts to extinguish it; and in your zeal to do it all the injury in your power, you do not hesitate to commit a very gross misrepresentation. You speak of "Bouillaud's experiments," performed by mutilating the brains of the lower animals, as made by phrenologists. "We will not," you say, "argue the question, or animadvert upon the absurd lengths to which the apostles of Phrenology, as a science, carry their dogmata; but we will at once go to the *fourth* paper, that which has provoked our indignation, and ask if the detail of such abominable cruelties, under the name of experiments, instead of procuring allies to the cause of Phrenology, is not sufficient to revolt human nature against it and its atrocious professors?" You add, "so cold-blooded a narrative of barbarities perpetrated on a worthless plea, it has never been our painful duty to peruse." And you ask, "What shall we say of these phrenological butcheries for the sake of gratifying a foolish curiosity respecting the functions of peculiar portions of the brain?"

Now, the paper from which you extracted the passages commented on, was printed in the Phrenological Journal, expressly as a translation of part of Magendie's *Journal de Physiologie*, published in Paris in April 1830, and it contains the following notice: "We wish it to be distinctly understood, that in submitting the foregoing translation of M. Bouillaud's paper to the public, we are not to be regarded as *approving* of all the observations he has made, or as coinciding with all the conclusions he has drawn. We reserve our opinion *both as to the manner in which the investigations were conducted*, the accuracy of the reasoning to which they have given rise, and to the authority to be attached to evidence obtained by means of destructive anatomy, until the publication of his farther researches shall put it in our power to place the subject in all its detail before our readers. In the mean time, these experiments are interesting, in so far as they *shew the direction which experimental physiology has taken*

on the Continent; but they are much more deserving of attention as recording the fact, that two hostile sects of physiologists, while entertaining opposite opinions, and pursuing methods of inquiry widely different, have arrived at precisely the same conclusions."

However strongly you might consider it your duty to express your abhorrence of Bouillaud's experiments, it was inconsistent with every principle of justice, in the face of this distinct announcement, to charge them against phrenologists.

You are pleased to call the phrenologists "atrocious professors," because they have published "the detail of such abominable cruelties," but with what shew of consistency did you copy that detail into your own pages? You denounce it as a "cold-blooded narration of atrocities," and yet you inflict it on your own readers! Rage seems to have obscured your judgment, and rendered you blind to consistency as well as to justice.

Finally, Bouillaud is well known to be a pupil of Magendie, who opposed Phrenology in his journal, and whose experiments were triumphantly circulated by yourself, as refutations of Dr Gall's discovery. If Bouillaud has embraced different opinions in consequence of his own experiments, the phrenologists are no more chargeable with the "atrocity" of his proceedings than with that of Magendie's experiments, which led him to conclusions hostile to their views. In the writings of Dr Gall, Dr Spurzheim, Mr Combe, and every other recognised phrenologist, destructive anatomy is disavowed as a legitimate method of determining the functions of the brain, and has never been practised by them.—I am, &c.

THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

The article in the Literary Gazette produced the following epistle which appeared in the Times:

" TO THE EDITOR OF THE TIMES.

" SIR,

" I appeal to you to exert the utmost influence which, as the editor of a widely circulating paper, you possess, to prevent the possible recurrence of the revolting atrocities which certain scientific monsters at Edinburgh have had the barbarity to perpetrate, and the unparalleled impudence to publish an account of, in Vol. VII. No. 29, of the *Phrenological Journal and Miscellany*, and of which a notice in terms of due detestation occurs in the *Literary Gazette*, of the 10th September. It appears from this Journal—

" 1st, That there breathes the man who, for the sake of ascertaining certain properties of the brain, can quietly sit down and force thick gimlets and hot irons into the brains of a young

dog, purposely selected for his docility and intelligence; can complacently note the varied expression of his agonies,—throw him while writhing with his wounds into a river,—suffer him to burn himself severely by walking into the fire,—chastise him for uttering plaintive cries,—and at the end of 16 days of protracted tortures commence fresh experiments, which fortunately terminate his life!

“*2dly*, That there is organized the society which encourages such experiments.—which considers them as adapted to the taste of the Christian public of Great Britain, as tending to the improvement of the human race, and which has established a journal for the express purpose of promulgating them.

“Ought such proceedings to be promoted? Or is it the duty of every man to raise his voice and put an effectual check upon such atrocious cruelty? Sir, I raise my voice, for God’s sake, and for the honour of humanity, raise yours. A. C. H.

“If money be in any way useful in promoting this object, I will willingly subscribe L. 5, and do my utmost in collecting farther subscriptions.”

We addressed the following letter to the Editor of the Times, which he politely inserted:

“THE PHRENOLOGICAL JOURNAL.

“TO THE EDITOR OF THE TIMES.

“SIR,

“You have published a letter signed A. C. H., containing unfounded and injurious charges against the Phrenologists of Edinburgh, which I call on you to refute. The letter states that ‘*certain scientific monsters at Edinburgh have had the barbarity to perpetrate, and the unparalleled impudence to publish an account of, certain revolting atrocities*, in Vol. VII. No. 29. of the Phrenological Journal and Miscellany,’ of which a notice in terms of due detestation occurs in the *Literary Gazette* of the 10th September.”

“It is difficult to conceive what could tempt any man of common sense or honesty to publish such assertions as these. In Nos. 28 and 29 of the Phrenological Journal, a translation is given from Magendie’s *Journal de Physiologie* for April 1830, of a memoir published by M. Bouillaud, ‘a pupil and enthusiastic admirer of Magendie,’ detailing certain experiments performed by him on some of the inferior animals, with a view to ascertain the functions of the brain. Not only is the paper presented as a translation, and the source of it mentioned, but it is expressly added by the Editor of the Phrenological Journal, in a note, that ‘we wish it to be distinctly understood, that, in submitting the foregoing translation of M. Bouillaud’s paper to the public;

we are not to be regarded as *approving* of all the observations he has made, or coinciding in all the conclusions he has drawn. We reserve our opinion both as to *the manner in which the investigations were conducted*, and the accuracy of the reasoning to which they have given rise, till the whole shall be published.

The experiments, therefore, were not performed by 'certain scientific monsters at Edinburgh,' but by Bouillaud in Paris: They were not performed by a phrenologist, for Bouillaud in 1830 was the admiring pupil of Magendie, the arch enemy of Phrenology: Nay, farther, Dr Gall, Dr Spurzheim, and Mr Combe, and all other phrenologists with whose works I am acquainted, disavow destructive anatomy, as their mode of ascertaining the functions of the brain, and do not practise it. The whole charge, therefore, is most unfounded.

"In publishing this letter, you will perform an act of justice to men whom your correspondent has grossly misrepresented. I am, &c.

"THE EDITOR OF THE PHRENOLOGICAL JOURNAL."

These incidents are not of any grave importance in themselves, but they will possess an interest to the future historian of Phrenology, as examples of the spirit with which this science continued to be treated by some of the public journals, at a stage of the discussion in which it might have been thought hopeless to retard its progress by such paltry acts as those now exposed. The phrenologists will be happy to receive the L. 5 and other subscriptions obtained by A. C. H., and will grant bond to his satisfaction, that no such experiments as he charges them with, shall be performed within the limits of their authority. They will expect him at the same time to bind himself, along with sufficient sureties, that he shall not slander them as "scientific monsters," while they keep the peace towards the brute creation, and that he shall not invent calumnies to their prejudice where truth fails him, as in this instance he appears to have done.

ARTICLE IV.

A GUIDE TO HUMAN AND COMPARATIVE PHRENOLOGY ;
WITH OBSERVATIONS ON THE NATIONAL VARIETIES
OF THE CRANIUM, &c. By HENRY WILLIAM DEWHURST, F.M.
W. S., Surgeon, Lecturer on Human, Veterinary, and Comparative
Anatomy, Phrenology, &c. &c. London, 1831. Pp. 302.

M^r DEWHURST is a lecturer on Phrenology, and intends this manual to serve both as a text-book for the use of his hearers,

and as "a work of study and reference," for the public in general. It is for the most part a compilation from the writings of Dr Spurzheim and Mr Combe, and a detailed account of its contents would here be out of place. We shall therefore content ourselves with adverting to such portions of the work as appear to be most deserving of notice.

In the preface, the author makes some well founded observations on the ignorance which has so often been displayed by the opponents of Phrenology, and gives the following sound advice to those who are desirous of obtaining a knowledge of the science, and of satisfying their minds of its truth:—"Read all the works written in favour of Phrenology, as also those against it; then use careful and attentive observations; attend the lectures delivered in illustration of this doctrine:—and when the student has made himself acquainted with all the opinions *pro* and *con*, then let him carefully form his opinion, which, I venture to predict, will be in favour of Phrenology; at all events, this is the only method by which he can form it impartially."

He "prophecies that it will not be long before professorships are endowed, and public professors appointed in every university and academic institution in Great Britain, as well as throughout the whole learned world." Our hopes rest more upon the next than on the present generation.

The author gives an account of the various collections illustrative of the science, which have been made by phrenologists:—The principal phrenological museums are those formed, "1. By the late Dr Gall at Paris. 2. By Dr Vimont, a physician at Caen. This gentleman was originally an opponent of Phrenology: having attended Dr Gall's lectures at Paris, he left that city with strong prepossessions against his doctrine, and, on returning to Caen, prosecuted his researches with the express object of refuting them; but after the fullest investigation, his inquiries terminated in making him a thorough convert to the system, and in the formation of a splendid museum, containing more than 2000 skulls of the mammalia and birds, casts of brains, modelled in wax, and nearly 300 original drawings made by himself. 3. By Dr Spurzheim. 4. and 5. By the Phrenological Societies of London and Edinburgh. 6. By Messrs R. and J. Childs, of Bungay, who possess about 300 casts, mostly from living persons. 7. By Dr Wright, of New Bethlehem Hospital, mostly from lunatics, and very interesting. 8. By Mr Crook of Lisson Grove. 9. My own, containing nearly 100 casts and skulls of men and animals. 10. By Mr Deville of the Strand, London; and, 11. By Messrs L. O'Neill, Canongate, Edinburgh: the two last are commercial, and very extensive." Several additional collections have been formed since the publi-

cation of Mr Dewhurst's work. In particular, we learn that one of national skulls has been made at Chatham.

He quotes from Mr Crook, an English phrenologist, the following just observations on the utility of phrenological museums:

"The increase of such collections," says Mr Crook, "is greatly to be desired. In the hands of a scientific phrenologist, every new specimen affords a mean of confirming truth, or of rectifying any mistake occasioned by a too limited acquaintance with the vast range of objects embraced by the science. As this range extends from the lowest animal to the highest tribe of the vast family of man, those persons visiting remote countries, or who observe the peculiarities of any of the races of the animal world, would confer a valuable boon by recording their observations, and transmitting them, with illustrative specimens, to competent parties. National *crania*, especially of uncivilized or unknown races, are peculiarly desirable; as also skulls of foreign animals, accompanied with a brief sketch of their habits, and distinguished, if possible, as to sex; as also skulls of singular formation, or extinct tribes; or casts in plaster of any of the above, or from individuals remarkable for any mental excellence or defect. Commanders on foreign stations and surgeons possess great facilities of thus aiding the advance of a science intimately connected with every thing relating to man in his personal or social character."

The following particulars regarding the discovery of Alimentiveness are also copied from Mr Crook:—

"Three persons," says Mr Crook, "with whom I had become acquainted in the year 1819, first led me to suspect that a portion of the brain, situated near the front of the ear (next to Destructiveness), was connected with the pleasures of the festive board. From that time to the end of 1822, above 1000 observations were made; as they tended to confirm this view, several phrenological friends were informed as the result. From 1823, I no longer doubted that the anterior portion of the middle lobe was a distinct organ, and that its primary use was the discrimination and enjoyment of meats and drink. It was difficult, however, to hit the fundamental power. The situation of the organ, under the zygomatic process, and the temporal muscle, frequently precluded the possibility of accurate observation. But, notwithstanding, well marked cases, both of a positive and a negative kind, were investigated. These conclusions were embodied, and read to the Phrenological Society of London, on the 8th of April 1825. Two months before, though it was not known in London, a letter had been received in Edinburgh from Dr Hoppe of Copenhagen, giving the same portions of the brain to the sensations of hunger and thirst. The coincidence was felt to be remarkable, and to myself particularly so, as I

had, in 1821, conceived a similar idea, but discarded it upon considering the dependence of these feelings upon the stomach and tongue."

A note is appended to the work containing an interesting illustration of the faculty of Locality.

"Mr Robert Sweet of Chelsea, the well known botanical author, who keeps a great many of the migrating birds, has written a small essay, entitled 'British Warblers,' on the *genus Sylvia*. He gives the following account:—'These birds, when in confinement, are very restless at the seasons of their usual emigration from one country to another; in autumn, about twice during the winter, and again when they are returning in the spring. From their agitation at various times in winter, it may be concluded that they visit more than one country after their departure from this. It is very curious to see them when in this state: their restlessness seems to come at once, and generally in the evening. When they are sitting, seemingly quite composed, they start up suddenly and flutter their wings; sometimes flying direct to the top of the cage or aviary: at other times running backwards and forwards on their perches, continually flapping their wings, and looking upwards all the time: nor will they notice any thing that is going forward as long as they continue in that state, which lasts for an hour or two at each time. By their always wishing to fly upwards, it may be supposed, that when they first direct their flight, they mount upwards to a great height, so that they can direct their course the better, by seeing the way clear all round them.' Their agitation generally lasts about a fortnight, sometimes more and sometimes less: in the spring it seems strongest on them. At that season they will sometimes flutter about the whole of the night, and sleep a great part of the day.'"

It is our unpleasant duty to add, that Mr Dewhurst's "Guide to Human and Comparative Phrenology" is by no means a sure and faithful "Guide." It contains numerous errors in the statement of facts; and many of the sentences are either exceedingly obscure or utterly unintelligible. Its pages are fearfully disfigured by typographical errors, which are here more numerous and glaring than in any volume which we have ever had the fortune to read. Many examples, such as the following, could easily be quoted; but one must suffice:—Speaking of Secretiveness, he says,—"When in union with the superior sentiments and large Conscientiousness, it excites those secret stimuli of those feelings, which we find among friends reciprocally manifested, even should the ravages of time make their appearance, before outwardly declared." "This organ is very frequently found in the higher orders of animals. It constitutes their slyness, we shall find it to constitute the cause of this sly-

ness; and, more particularly, if we consider the behaviour of man and animals, when they exercise functions of this kind; and this appears to be the especial faculty to cause the wish of clandestine conduct, either in words, thoughts, things or projects." (Pp. 158, 159.)

In conclusion, we cannot refrain from expressing our regret that Mr Dewhurst should have sent forth to the world this crude and incorrect elementary work, which certainly is little calculated to reflect credit either on its author or on the doctrine which it professes to expound.

ARTICLE V.

THE FUNCTIONS OF LOCALITY ILLUSTRATED BY A LUDICROUS OCCURRENCE, WHICH FOR A TIME OBSTRUCTED OR SUSPENDED ITS USE.

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

SIR,

WHILE the unreflecting have rejected some of the phrenological faculties as mere extravagancies, such as Destructiveness, Secretiveness, and Wonder, they have pronounced others utterly unintelligible, as Order, Time, and Weight, and yet others superfluous, as Constructiveness and Locality. "What can *Weight* mean?" asked, for example, the Edinburgh Review; the writer never having reflected that none of the five senses he owns would give him the sensation of gravitation or mechanical resistance, or enable him to keep his balance, or recover it when endangered. *Locality*, on the other hand, (which Sir George Mackenzie has justly defined the perception of relative position), has been scouted as a mere superfluity; being merged, it is said, in the simple *perception* of objects; each man knowing his own house, each bird its own nest, and each mouse its own hole, the moment the house, nest, or hole, is perceived. Yes! the phrenologist answers, when they are *perceived*; then Locality becomes superfluous, and gives up the duty to Individuality, but not till then. There is a thing called the *way* to the house, or nest, or hole, when the man, or bird, or mouse, chances to be at a distance, and out of sight of the object. Then the relative position of objects is the only perception that will serve them. This will even carry them to *places* where they have never been before, and where *recognition* of the object can have no place.

Let any one try how his perception of St Petersburg or St Helena will find him *the way* to these places. Does he not instantly appeal to a faculty as distinct from that which shall perceive these places themselves when he arrives at them, as hearing is from sight?

If it were possible by art to suspend, in the case of our recusant, the function of any of the denied percipients, just as we can bandage the eyes and stop the ears, and give him a trial of the absence of the particular power, allowing him perfect freedom to try how far he can supply the want by applying other powers, we should possess a very powerful means of practically convincing him. This suspension or deprivation of power is often realized by natural conformation, by accidental derangement, or even temporary disease of organ, in all the faculties; but this defect, if it exist in others and not in himself, produces no effect on the antiphronologist, as the defect is just as stoutly denied, in other words, as little understood, as the function. An accidental occurrence lately induced me to think that the power of Locality may be artificially suspended, and the want of its aid as a faculty impressed upon the merriest satirist of its existence. Reading, during summer and autumn, in the country, I was one night the last of the family in going to bed; and having, when the whole house but myself had been long asleep, put out the candles in the drawing-room, where I had remained reading, I took in my hand a lamp to find my way to bed. In the entrance hall, across one end of which ran a row of pillars, and through them was a door that led to the stair-case, my lamp was accidentally extinguished, and I was suddenly left in *outer* darkness. Trusting to the knowledge I had of the relative position of the objects in the hall, such as the pillars, doors, windows, &c., I went in the direction, as I thought, of the door, feeling in my way for the expected pillars. Before making this attempt, I must unawares have turned round, and in the direction in which I went I could find no pillars, and, of course, no door. I turned about and resolved to grope for the pillars, and found my perplexity increased by every object I touched. There were two marble slabs in the hall exactly opposite to each other. I felt one of them, but being the reverse one of that which I concluded it to be, it was in vain that I took a fresh departure from it, for I did not find the pillars and the door in the relation to it which I expected. I came to pillars, but it was at the wrong end of the range, and I could find no door in the expected relation to them. Matters were now worse than ever, for I had no means of finding any thing in the hall except by actual contact; and when I did get hold of any object, my Locality was completely useless to me in enabling me again to perceive the relative position of such object, and of my own per-

son, to the other objects in the hall. The darkness put me in mind of the younger Pliny's description of that which prevailed at the first breaking out of Vesuvius, when his uncle was killed and Herculaneum overwhelmed; it was like the darkness, he says, not of a dark night out of doors, but in a shut up chamber within. I had a great repugnance to take the course of rousing the family, to witness the mortifying confession that I had lost *myself*, as well as my way, in the hall. I had no prospect but that of remaining where I was, and the evil not being very great, but the situation exquisitely ludicrous, I sat down on a chair and laughed at the absurdity of my predicament. I found the power of regaining a knowledge of *where* I was utterly gone without establishing afresh known points, and I resolved to feel round the walls till I should succeed. I remembered that one of the marble slabs had a barometer hung immediately over it; I therefore groped till I found the barometer, and placing my back to the slab, made a heroic effort to re-establish my Locality in all its vigour, for in me it happens to be a very powerful faculty. The perplexing trials which the faculty had already undergone, made my new position useless to me for a good many minutes, and they were painful and embarrassing. I could not recollect without much thinking in what direction I was to go on quitting that friendly point, and I felt a great disinclination to quit it. In due time I did recover the lost power, and ventured in the direction, which was diagonal, of the door; I again missed it, and had some additional groping, which had nearly brought back my former confusion, when a *chink* of light from the stair-case window was suddenly visible to me through a small opening of the door. This I joyfully opened, saw the stair-case window, and in an instant my power of locality was restored as if by a charm.

The practical use I made of this amusing adventure, which cost me about twenty minutes or half an hour's hard labour, was first to add it to the other proofs already known to me, that Locality is a specific primitive power of mind. I had just experienced to my cost, that no other power which remained to me in vigour could supply it. I was perfectly aware of the *Form* of every thing in the hall, but *that* did nothing for me. I knew the *Size* of the hall itself and of every thing in it, but *that* aided me not; I remembered the *Weight*, *Colour*, *Arrangement*, *Number*, and *Sound* when struck, of every object in the hall, but none of these separately, nor the whole together, supplied to me the want of an actual perception of the relative position of the objects, without which all their other qualities and relations were useless to me. The second practical use I made of the adventure was to observe, that nothing could more tend to confirm Sir George Mackenzie's idea that the faculty

gives the perception of relative position, than the ceaseless efforts I made to recover what I had for the moment lost, that very perception. And, thirdly, it occurred to me, that in the term relative position, must be included the relation of the relative position of objects to our own person. This was made clear to me by reflecting, that, at any one moment of my embarrassment, I could have remembered the relative position of marble slabs, pillars, doors, &c. to each other; indeed, all my efforts to get right presume that knowledge; what I wanted was a perception of my own position in relation to the relative position of the other objects. I submit that this, as an element of the perception, is too clear to require farther consideration.

If the antiphrenologist should say that I merely wanted light and the use of my *eyes* to recover my Locality, and that, therefore, Locality, as I call it, is just the sense of sight; I would answer, by readily admitting, that seeing the objects is the best way to recover the perception of their relative position to each other and myself. In other words, that the locality as well as the number of objects can be seen, but Number and Locality are distinct perceptions nevertheless. Other perceptions come through the organ of Sight. But if the faculty of Locality can be exerted, as there can be no doubt it can, by touching the different objects, as is exemplified by the blind; if, moreover, the light and sight failed, but left the locality entire, but for the accidental turn, it is undeniable that there is a faculty quite distinct from sight and touch, and all other faculties, however aided by these, which gives the perception of place, and not only shews to man and animals their way home, but guides the ship through the ocean, by perceiving the relation of the sun and stars at certain times to the north pole, to which the needle points, and renders the trackless deep a high way through the world. What are the thirty-two points of the mariner's compass but fixed points in aid of Locality? I should like to see any one, who denies the perception of these relations to be a faculty, blindfolded in his own most familiar chamber, and, according to the established practice in blind-man's-buff, which is much more philosophical than *his* theory, turned three times round, and told to make his way to the fire-place or the door, without first advancing to the wall and groping his way round it. Yours,
&c. S.

ARTICLE VI.

INTRODUCTORY LECTURES ON POLITICAL ECONOMY, being Part of a Course delivered in Easter Term, 1831. By **RICHARD WHATELY**, D. D., Principal of St Alban's Hall, Professor of Political Economy in the University of Oxford. London, 1831.

SINCE this work was published, the author has been nominated to the Archbishopric of Dublin, and he appears deserving of the honour.

A few years ago, a Professorship of Political Economy was founded in Oxford by Mr Drummond, with a novel constitution. The professor holds his office only for five years, and it is a condition that one lecture, at least, shall be published every year. Dr Whately is the second individual who has been elected to the chair, and the present lectures, eight in number, have been published, in compliance with the statute. They are introductory in their character, being intended chiefly to dispel popular prejudices against political economy, and to unfold its objects. They contain several admirable observations, calculated to remove prejudices against the pursuit of new truths, which are directly applicable to our science, and on this account we present them to our readers.

The first obstacle that every great discovery connected with human conduct has met with, is the allegation that it is hostile to religion. In England this charge has been urged against Political Economy; and its doctrines have been represented as inconsistent with Christianity.

Dr Whately, in his preface, says, "It has been my first object to combat the prevailing prejudices against the study, and especially those which represent it as unfavourable to religion." The University of Oxford, he observes, by accepting the endowment of the Chair, has borne her public testimony against that prejudice; and subsequently, in appointing to the professorship one of her members, "who is not only professionally devoted to the ministry of the Gospel, but whom she has judged worthy, (in the office of Bampton Lecturer, and three times in that of Select Preacher,) to offer religious instruction to an academical audience, she has implied the full conviction of a body which is above all suspicion of indifference to Christianity, that there is at least no discordancy between that and the pursuits of the political economist." A considerable portion of the lectures is devoted to the removal of this prejudice, and the author displays at once intrepidity and philosophical acumen in the mode in which he manages the argument.

"In proportion," says he, "as any branch of study leads to

important and useful results, in proportion as it gains ground in public estimation—in proportion as it tends to overthrow prevailing errors—in the same degree it may be expected to call forth angry declamation from those who are trying to despise what they will not learn, and wedded to prejudices which they cannot defend. Galileo probably would have escaped persecution, if his discoveries could have been disproved, and his reasonings refuted.” “That political economy should have been complained of as hostile to religion, will probably be regarded a century hence (should the fact be then on record) with the same wonder, almost approaching to incredulity, with which we, of the present day, hear of men sincerely opposing, on religious grounds, the Copernican system. But till the advocates of Christianity shall have become universally much better acquainted with the true character of their religion, than, universally, they have ever yet been, we must always expect that every branch of study, every scientific theory that is brought into notice, will be assailed on religious grounds, by those who either have not studied the subject, or who are incompetent judges of it; or again, who are addressing themselves to such persons as are so circumstanced, and wish to excite and to take advantage of the passions of the ignorant. *Flectere si nequeo superos, Acheronta movebo*. Some there are who sincerely believe that the Scriptures contain revelations of truths the most distinct from religion. Such persons procured, accordingly, a formal condemnation (very lately rescinded) of the theory of the earth's motion, as at variance with Scripture. In Protestant countries, and now, it seems, even in Popish, this point has been conceded; but that the erroneous principle—that of appealing to revelation on questions of physical science—has not yet been entirely cleared away, is evident from the objections which most of you probably may have heard to the researches of geology. The objections against astronomy have been abandoned, rather, perhaps, from its having been made to appear, that the Scripture accounts of the phenomena of the heavens may be reconciled with the conclusions of science, than from its being understood that Scripture is not the test by which the conclusions of science are to be tried.” “It is not a sign of faith—on the contrary, it indicates rather a want of faith, or else a culpable indolence—to decline meeting any theorist on his own ground, and to cut short the controversy by an appeal to the authority of Scripture. For, if we really are convinced of the truth of Scripture, and consequently of the falsity of any theory, (of the earth, for instance,) which is really at variance with it, we must needs believe that that theory is also at variance with observable phenomena; and we ought not therefore to shrink from trying the question by an appeal to the facts which have not revealed to us a system of morality, such as has been needed for a

being who had no other means of distinguishing right and wrong. On the contrary, the inculcation of virtue, and reprobation of vice in Scripture, are in such a tone as seem to presuppose a natural power, or a capacity for acquiring the power to distinguish them. And if a man, denying or renouncing all claims of natural conscience, should practise without scruple every thing he did not find expressly forbidden in Scripture, and think himself not bound to do any thing that is not there expressly enjoined, exclaiming at every turn—

“Is it so written in the Bond?”

he would be leading a life very unlike what a Christian's should be. Since, then, we are bound to use our own natural faculties in the search after all truth that is within the reach of those faculties, most especially ought we to try, by their own proper evidence, questions which form no part of revelation properly so called, but which are incidentally alluded to in the Sacred Writings. If we appeal to the Scriptures on any such points, it should be merely as to an ancient book, not in reference to their sacred character; in short, not as Scripture.”—Pp. 29 to 36.

These observations are highly philosophical, and worthy of attention; the more so that their author is a divine, and now a high dignitary in the church of Ireland. The cry of Materialism was fiercely raised, and long maintained against Phrenology; but it has at length been silenced by a demonstration of its absurdity. The charge now made is, that Phrenology leads to Infidelity, and that its principles and doctrines are irreconcilable with Scripture. It is instructive to trace the different views in which the science has been regarded by religious persons at different times, bearing in mind that the fundamental truths of the doctrine have never varied. A few years ago Phrenology was favourably received by a certain religious class, because it was believed to be the philosophy of their peculiar views. The corruption of human nature is a fundamental point of doctrine with them, and the large organs of Amativeness, Combativeness, Destructiveness, Acquisitiveness, Secretiveness, &c. which the human head displayed, were hailed as so many philosophical evidences, coinciding with the testimony of Scripture, in support of this position. For a season, Phrenology was patronised by this party, and recommended to the approbation of its adherents. But when phrenologists proceeded to shew that the function of every organ is good in itself, and that evil arises only from abuses; that the tendency to commit abuses is, *ceteris paribus*, in proportion to the excess in size of the organs of the lower propensities over those of the moral and intellectual faculties; that the relative proportions of the organs are, to an important extent, influenced by the condition of the parents; in short, when the doctrine was started that human dispositions

are fundamentally influenced by physiological causes, Phrenology began to be suspected and disliked by those who had, under the first view of it, regarded it with favour.

We ask any person alive to the unbending nature and unspeakable importance of truth, what line of conduct was incumbent on the advocates of this science? Ought they to have trimmed their interpretations of nature into harmony with the prevailing interpretations of Scripture of each sect for each day; or ought they to have proceeded boldly, but cautiously, to observe the facts presented to their understandings, and to record these, in firm reliance on the ultimate harmony of scriptural truth with natural truth, when both shall have been fully explicated and fairly compared? The latter course has been followed; and it falls precisely within the scope of Dr Whately's principles, here so ably unfolded. If the doctrines of Phrenology to which we have alluded be untrue, then the proper answer to them is a demonstration of their falsity. If they be true, they are mere enunciations of the institutions of the Creator, and it argues superstitious, and not religious, feelings to fear evil consequences from the knowledge of what Divine Wisdom has appointed. The argument that the *results* of the doctrine are obviously at variance with Scripture, and, *therefore*, That the doctrines *cannot be true*, is not admissible; "for," in the words of Dr Whately, "if we really are convinced of the truth of Scripture, and consequently of the falsity of any theory, (of the earth for instance), which is really at variance with it, we must needs believe that that theory is also at variance with observable phenomena; and we ought not therefore to shrink from trying the question by an appeal to these."

Galileo was told from high authority in the church, that his doctrine of the revolution of the globe was obviously at variance with Scripture, and therefore that it *could not be true*; but as his opinions were founded on physical facts, which could neither be concealed nor denied, they necessarily prevailed. If there had been a real opposition between Scripture and nature, the only result would have been a demonstration, that Scripture in this particular instance was erroneously interpreted, because the evidence of physical nature is imperishable and insuperable, and cannot give way to any authority whatever. The same consequence will evidently happen in regard to Phrenology. If it were possible that any facts in physiology did actually and directly contradict any interpretation of Scripture, it is not difficult to perceive which must yield. The human understanding cannot resist evidence founded on nature, and even if it did resist, Nature would not bend, but continue to operate in her own way in spite of the resistance, and a new and more correct interpretation of Scripture would ultimately

become inevitable. This opposition we sincerely believe to be in itself impossible, when the facts in nature are correctly observed, and divine truth is correctly interpreted; but we put the case thus strongly to call the serious attention of religious persons to the mischievous consequences to religion, of rashly denouncing any doctrine professing to be founded on natural facts, as adverse to revelation. Every instance in which the charge is made falsely, is a mortal stab to revelation itself, and tends to lead men to regard Scripture as an obstacle to the progress of science and civilization, instead of being a system of divine wisdom, in harmony with all natural truth.

Some persons are anxious that we should avoid all discussion of the relation between Phrenology and Religion, as tending to create uneasiness, and being unnecessary to the progress of the science; and if we could view the matter in this light, we should be happy to act as they advise; but as it appears to us certain, that Phrenology is destined to exercise an important influence on the religious opinions of mankind, it is a duty to state this fact. If the diffusion of the principles of this science will strengthen, purify, and advance religion, which we firmly believe, the sooner the relationship between the two is made known the better. If it were possible that Phrenology should weaken religious truth, or impede its progress, it would be dishonest, whilst suspecting this result, to propagate its doctrines, and conceal their tendency. In either view, therefore, it is the duty of a candid and benevolent mind to speak openly. In all earnestness and sincerity, therefore, we announce to religious professors of every denomination, that the day is on the wing, when they will find their doctrines sifted and tried by the principles of this science. We are convinced that true religion will gain great strength and power by the ordeal; but we are prepared to expect modifications of many existing opinions.

One of the most important and fundamental questions in morals and religion, is the inherent capability of the human mind, by the development and proper application of its own elements, and those of external nature, to rise in the scale of improvement; we do not say to perfection, but to a condition fairly calculated to satisfy the reasonable demands of our moral and intellectual faculties. If we assume the negative side of this question to be the true state of the fact, we shall be led by our principles to treat lightly the natural qualities of the human mind, and to look for success in improving mankind chiefly from spiritual influences. Some sects in religion have not only denied the capability of human nature to improve itself, but represented its constitution, and that of the external world, as positively adverse to such improvement; so much so, that they consider the chief value of revelation to consist in proving this

have been in contradiction to a condition of universal placidity and peace, in moral and physical nature. There are organs of Secretiveness and Cautiousness; which imply thoughts and emotions existing within the mind, proper to be concealed and restrained—and danger existing abroad, to be shunned: these would have been in contradiction to a condition in which every thought was pure, and in which no danger could find a place. If, then, man, at his creation, possessed all these organs, it follows, that his physical and mental constitution, and also that of external nature, must have been at that time substantially the same as at present. If man at his creation did not possess these organs, and if external nature was at that time constituted in relation to a different mental combination, then man, of our day, is a different being from man as at first created; and the change is not one of degree, but of kind. The addition or subtraction of organs, and the alteration of external nature in relation to them, would constitute man a different creature; and it is difficult to discover a ground of responsibility on the part of the present creature for the sins of a previous, but different being.

Phrenology gives a degree of clearness and precision to our views of the human constitution which was never before enjoyed: and it forces us, by the palpable nature of the facts which it presents to our consideration, to reason on ethical questions whether we will or not.

Again, all existing interpretations of Scripture have been adopted in ignorance of the fact, that, *ceteris paribus*, a brain preponderating greatly in the size of the animal organs over the moral and intellectual organs, has a native and instinctive tendency to immoral conduct, and *vice versa*; and that the influence of the organization is fundamental; that is to say, that no means are yet known in nature, by which a brain of the inferior combination may be made to manifest the moral and intellectual faculties with equal success as a brain of the superior combination. Only phrenologists, who have observed, for many years, in various situations, and under different influences, the practical conduct of individuals constituted in these different ways, can conceive the importance of the combinations of the organs; but after it is discovered, the inferences from it are irresistible. The religious teachers of mankind are yet ignorant of the most momentous fact in regard to the moral and intellectual improvement of the race which nature contains. We have heard it said that Christianity affords a better and a more instantaneous remedy for human depravity, than improvement in the cerebral organization; because the moment a man is penetrated by the love of God in Christ, his moral affections and intellect become far more elevated, whatever his brain may be, than those of any

individual whatever without that love, however high his cerebral development may be, and however much he may be instructed in natural knowledge. If the case were as here represented, there would be a power in operation on the human mind, which acted not in accordance with, but independently of, organization; and, accordingly, many excellent persons believe this to be scriptural truth, and matter of fact also; but so far as our observations extend, we are compelled to dissent from the conclusion. We cannot doubt that the influence of the brain is established by the Creator, because He gave it all its qualities and effects; and as He is perfect Wisdom and Goodness, we cannot conceive one part of His works contradicting another. Farther, we have observed men in whom the moral and intellectual organs were large, proving themselves by their whole conduct on earth to be excellent Christians, which goes to support Phrenology; but we have never seen an individual with large animal, and small moral and intellectual organs, whose conduct was steadily moral, under the ordinary temptations of life, however high his religious professions might be. Indeed, we have seen several striking instances of persons, who, after making a great profession of religion, ultimately disgraced its cause; and we have observed, without one exception, that, in all these instances, the organs of the inferior propensities were large, and those of one or more of the moral sentiments deficient; and we are convinced that the same conclusion, after sufficiently accurate and extensive observation, will force itself upon all candid and reflecting minds.

Our inference, therefore, is, that the Divine Spirit, revealed in Scripture as a power influencing the human mind, invariably acts in harmony with the laws of organization; and that a well constituted brain is a condition essential to the due manifestation of Christian dispositions. If this be really the fact, and if the constitution of the brain be in any degree regulated by the laws of physiology, it is impossible to doubt that Phrenology is destined to exercise a vast influence on practical Christianity.

An admirable portion of Christianity is that in which the supremacy of the moral sentiments is explained and enforced as a practical doctrine, "Love thy neighbour as thy self;" all mankind are thy neighbours. Blessed are the meek and the merciful; love those that hate you and despitefully use you; seek that which is pure and holy, and of good report;—these are precepts of Scripture. Now, Phrenology enables us to demonstrate, that the human faculties, and external nature, are so constituted as to admit of this becoming a practical doctrine on earth, which it has rarely entered into the heart of man to conceive as a possibility without miraculous interference. If Phrenology shall carry home to the conviction of rational men, that

have been in contradiction to a condition of universal placidity and peace, in moral and physical nature. There are organs of Secretiveness and Cautiousness; which imply thoughts and emotions existing within the mind, proper to be concealed and restrained—and danger existing abroad, to be shunned: these would have been in contradiction to a condition in which every thought was pure, and in which no danger could find a place. If, then, man, at his creation, possessed all these organs, it follows, that his physical and mental constitution, and also that of external nature, must have been at that time substantially the same as at present. If man at his creation did not possess these organs, and if external nature was at that time constituted in relation to a different mental combination, then man, of our day, is a different being from man as at first created; and the change is not one of degree, but of kind. The addition or subtraction of organs, and the alteration of external nature in relation to them, would constitute man a different creature; and it is difficult to discover a ground of responsibility on the part of the present creature for the sins of a previous, but different being.

Phrenology gives a degree of clearness and precision to our views of the human constitution which was never before enjoyed: and it forces us, by the palpable nature of the facts which it presents to our consideration, to reason on ethical questions whether we will or not.

Again, all existing interpretations of Scripture have been adopted in ignorance of the fact, that, *ceteris paribus*, a brain preponderating greatly in the size of the animal organs over the moral and intellectual organs, has a native and instinctive tendency to immoral conduct, and *vice versa*; and that the influence of the organization is fundamental; that is to say, that no means are yet known in nature, by which a brain of the inferior combination may be made to manifest the moral and intellectual faculties with equal success as a brain of the superior combination. Only phrenologists, who have observed, for many years, in various situations, and under different influences, the practical conduct of individuals constituted in these different ways, can conceive the importance of the combinations of the organs; but after it is discovered, the inferences from it are irresistible. The religious teachers of mankind are yet ignorant of the most momentous fact in regard to the moral and intellectual improvement of the race which nature contains. We have heard it said that Christianity affords a better and a more instantaneous remedy for human depravity, than improvement in the cerebral organization; because the moment a man is penetrated by the love of God in Christ, his moral affections and intellect become far more elevated, whatever his brain may be, than those of any

individual whatever without that love, however high his cerebral development may be, and however much he may be instructed in natural knowledge. If the case were as here represented, there would be a power in operation on the human mind, which acted not in accordance with, but independently of, organization; and, accordingly, many excellent persons believe this to be scriptural truth, and matter of fact also; but so far as our observations extend, we are compelled to dissent from the conclusion. We cannot doubt that the influence of the brain is established by the Creator, because He gave it all its qualities and effects; and as He is perfect Wisdom and Goodness, we cannot conceive one part of His works contradicting another. Farther, we have observed men in whom the moral and intellectual organs were large, proving themselves by their whole conduct on earth to be excellent Christians, which goes to support Phrenology; but we have never seen an individual with large animal, and small moral and intellectual organs, whose conduct was steadily moral, under the ordinary temptations of life, however high his religious professions might be. Indeed, we have seen several striking instances of persons, who, after making a great profession of religion, ultimately disgraced its cause; and we have observed, without one exception, that, in all these instances, the organs of the inferior propensities were large, and those of one or more of the moral sentiments deficient; and we are convinced that the same conclusion, after sufficiently accurate and extensive observation, will force itself upon all candid and reflecting minds.

Our inference, therefore, is, that the Divine Spirit, revealed in Scripture as a power influencing the human mind, invariably acts in harmony with the laws of organization; and that a well constituted brain is a condition essential to the due manifestation of Christian dispositions. If this be really the fact, and if the constitution of the brain be in any degree regulated by the laws of physiology, it is impossible to doubt that Phrenology is destined to exercise a vast influence on practical Christianity.

An admirable portion of Christianity is that in which the supremacy of the moral sentiments is explained and enforced as a practical doctrine, "Love thy neighbour as thy self;" all mankind are thy neighbours. Blessed are the meek and the merciful; love those that hate you and despitefully use you; seek that which is pure and holy, and of good report;—these are precepts of Scripture. Now, Phrenology enables us to demonstrate, that the human faculties, and external nature, are so constituted as to admit of this becoming a practical doctrine on earth, which it has rarely entered into the heart of man to conceive as a possibility without miraculous interference. If Phrenology shall carry home to the conviction of rational men, that

the order of nature fairly admits of the practical exemplification of these precepts by the development of its inherent resources, a new direction must necessarily be given to the pursuits of the religious instructors of mankind. In the dark ages which followed the subversion of the Roman Empire, men, through ignorance, converted Christianity into a vast system of superstition; in proportion as learning revived, the barbarous superstructures which had been raised on the simple foundations of the Gospel were cleared away; but the period from the revival of letters to the present day, has been the age of scholastic learning, as contradistinguished from that of philosophy and science. Christianity stands before us at present, as interpreted by men who knew extremely little of the science, either of external nature or of the human mind. They have conceived it to be a system of spiritual influences, of internal operations on the soul, and of repentant preparation for another world, rather than an exposition of pure and lofty principles inherent in human nature itself, capable of being largely developed and rendered practical in this world. It is a common accusation against philosophy, that the study of it renders men infidels; and this alleged fact is brought forward as a proof that human nature is corrupt, blind, and perverse, turning what ought to be its proper food into mortal poison. But if this were really a well founded charge, the conclusion which we would draw from it would be, that there must be essential errors in the popular interpretations of revelation, when the effect of a knowledge of nature on the mind is to lead to disbelief of its truth. Science is of modern growth, and, down to the present hour, the mass of Christians in every country have embraced their faith without the possibility of comparing it with the revelation of the Divine Will contained in the constitution of external nature, which, philosophically speaking, was unknown to them. For example; The brain is capable of being greatly improved by attention to the laws of physiology; and improvement in the brain will be accompanied by enlargement of the moral and intellectual capacities, and diminution of the animal propensities of the mind. These facts have been unknown by divines, who have denied the capability of mankind to attain, by the development of their natural powers, to a higher moral condition than they have hitherto exhibited, and, hence, their decision against the capabilities of human nature has been pronounced *causa non cognita*, and must be open for reconsideration. If Christianity was freed from many errors by the revival and spread of mere scholastic learning in the fifteenth, sixteenth, and seventeenth centuries, much more may we expect that the interpretations of it will be farther purified, corrected, and elucidated, by the flood of light which the sciences of human and physical nature, now in the course of cultivation, will shed upon it.

According to our view, the study of the human constitution, and of external nature, and of their relations, will become an object of paramount importance with reference to a just appreciation of the true meaning of Scripture. Civilized man sees infinitely more true and practical wisdom in Scripture than the savage of the wilderness, even supposing that the latter could read and understand the words of the sacred volume; and, in like manner, we humbly think, that man, when thoroughly instructed in his own constitution, and in that of external nature, will discover still profounder truth, and more admirable precepts in that record, than ignorant, contentious, blind, and conceited man, such as he has hitherto existed. These observations may perhaps appear presumptuous to those who do not admit Phrenology to be a true exposition of the Divine Law in the constitution of man. To such persons we are able to offer no apology. We have done our best to ascertain the truth of what we teach, and that truth appears to us to be too momentous to be hidden. If they, without submitting the question to investigation as we have done, chuse to condemn us on the strength of their own preconceived opinions, we appeal from their sentence to men better imbued with philosophy, and more thoroughly acquainted with practical Christianity, and conclude this branch of the subject in the words of Dr Whately, that "we are bound to use our own natural faculties in the search after all that is within the reach of these faculties, and that most especially ought we to try, by their own proper evidence, questions which form no part of revelation properly so called, but which are incidentally alluded to in the Sacred Writings."

The Professor combats, in a powerful manner, the prejudice, that *common-sense* is, by itself, a sufficient guide in questions of political economy; and his observations apply equally to the study of Phrenology. "The generality of mankind," says he, "have a strong predilection in favour of common-sense, except in those points in which they, respectively, possess the knowledge of a system of rules; but on these points they deride any one who trusts to unaided common-sense. A sailor, for instance, will perhaps despise the pretensions of medical men, and prefer treating a disease by common-sense; but he would ridicule the proposal of navigating a ship by common-sense, without regard to the maxims of nautical art. A physician, again, will perhaps condemn systems of political economy, of logic, or metaphysics, and insist on the superior wisdom of trusting to common-sense, in such matters; but he would never approve of trusting to common-sense in the treatment of diseases. Neither, again, would the architect recommend a reliance on common-sense alone in building."

Experience also, he observes, has been made the occasion of much fallacy, by a careless and inaccurate mode of appealing to

it. Experience, as a mental acquirement, implies the power of forming, from extensive and accurate observations on past occurrences, sound inductions regarding future events. When we find any one *contrasting* what he calls experience with theory, it will be found that "he is in reality comparing the result of a *confined* with that of a *wider* experience,—a more imperfect and crude theory, with one more cautiously framed, and based on a more copious induction." *Time* alone does not constitute experience; the longest practice in conducting any business in *one* way, does not necessarily confer any experience in conducting it in a different way; and merely being conversant with a certain class of *subjects*, does not confer experience in a case where the *operations* and the *end* proposed are different. A merchant in Amsterdam, who had dealt largely in corn all his life, but who had never seen a field of wheat growing, would have been greatly at a loss in its cultivation, though he had been long *conversant* about corn. "Nearly similar is the experience of a practised lawyer, (supposing him to be nothing more,) in a case of *legislation*: because he has been long *conversant about law*, the unreflecting attribute great weight to his judgment; whereas his constant habits of fixing his thoughts on what the law *is*, and withdrawing it from the irrelevant question of what the law *ought* to be; his careful observance of a multitude of rules, (which afford the more scope for the display of his skill, in proportion as they are arbitrary, unreasonable, and unaccountable), with a studied indifference as to that which is foreign from his business, the *convenience* or *inconvenience* of those rules, may be expected to operate unfavourably on his judgment in questions of legislation, and are likely to counterbalance the advantages of his superior knowledge, even in such points as do bear on the question." "In former times, men knew by experience, that the earth stands still, and the sun rises and sets. Common-sense taught them there could be no antipodes, since men could not stand with their heads downwards, like flies on the ceiling. Experience taught the King of Bantam, that water could not become solid." But more extended observation, and a sounder induction, have corrected these errors.

Dr Whately observes, that the study of political economy has been objected to on the ground that national wealth is morally mischievous, as introducing luxury, effeminacy, profligacy of manners, and depravation of principle. His answer is triumphant. Whether wealth be a good or an evil, it is a matter of importance to examine and carefully arrange the facts relating to its introduction. "If wealth, or great wealth, be regarded as a disease, we should remember, that bodily diseases are made the subject of laborious and minute inquiry by physicians, as necessary with a view to their prevention and cure." But we often find men d

the evils consequent on wealth, and

yet, in the next breath, condemning or applauding this or that measure, according to its supposed tendency to impoverish or to enrich the country; not only accepting wealth for themselves, and anxious to secure from poverty their children, "but even offering up solemn prayers to Heaven for the prosperity of their native country, and contemplating with joy a flourishing condition of her agriculture, manufactures, or commerce; in short, of the sources of her wealth." Nothing can be more inconsistent than such conduct. God has placed the human species in such a situation, and endued them with such faculties and propensities, as infallibly tend to the advancement of society in wealth, and all the arts of life. Now, if the increase of wealth, and the development of the intellectual powers, tend, not to the improvement, but rather to the depravation, of the moral character, we may safely pronounce this to be a complete reversal of every other appointment that we see throughout creation. God has forbidden man to kill and to steal, and inculcated on him gentleness, honesty, and industry, which lead naturally to an advancement in national wealth. If this advancement naturally tends to counteract the improvement of moral character, which God has prescribed as the great business of life, it is impossible to avoid the conclusion that he has given contradictory commands. But such a supposition is altogether inadmissible. The tendencies towards selfishness and rapacity exist in every state of society; while the restraining principles of religion and morality increase in power as society advances.—All men, in proportion as they approach the condition of savages, "are *men* in respect of their *passions*, while, in *intellect*, they are *children*."—"If it be true that man's duty coincides with his real interest, both in this world and in the next, the better he is qualified by intellectual culture and diffusion of knowledge, to understand his duty and his interests, the greater prospect there would seem to be (other points being equal) of his moral improvement." "And it is remarkable, that the tendency which the conduct of individuals, in pursuing their own private ends, even when those ends are purely selfish, has, towards promoting the interest of the community, is more and more developed, as society advances." In a rude state, the conduct of a miser is detrimental to the public, because he *withdraws from use* such articles as constitute the wealth of the community. In a more advanced stage, he lends out his capital to industrious individuals, who render it productive.

These observations are identical with our doctrine, that this world is constituted on the principle of the supremacy of the moral sentiments and intellect.

"Many persons, it is remarked, apprehend mischief from what they call over-education of the mass of the people; the too *great* amount, or too *sudden* increase, of the knowledge

placed within their reach—of their taste for intellectual pursuits—and their disposition to think and judge for themselves.” Dr Whately considers that the danger arises, not from the too great amount, or too great diffusion, of mental cultivation, but from *misdirected* and *disproportionate* cultivation. He recommends an increase in the moral and religious education of the people as the remedy. But “it is not enough to teach the people to read, and then merely to put the Bible into their hands. Books should be written expressly for their use, (and how can men of education be more laudably occupied?) not merely of grave instruction, but also such as may form in them a taste that shall tend to withdraw them, in their hours of recreation also, from all that is gross and corrupting?”

These are most valuable truths. The intellect must be exercised before it can become strong, and instructed before it can possess data for judging; and the study of nature is the appointed means of attaining both of these advantages. On this account, instruction in natural knowledge is very useful to rendering Bible instruction effectual.

Dr Whately adverts to two evils connected with the division of labour,—the contraction of the faculties, and consequent debasement of mind, resulting from a too limited range of occupation; and the danger of being thrown out of work, owing to the fluctuations of demand which inevitably occur in a manufacturing community. These evils, he considers, may be best obviated by judicious education, and habits of provident frugality.—We concur with him in these observations; but in order to secure capability and time for moral and intellectual cultivation, the hours of labour in all mechanical employments require to be abridged. On a subsequent occasion, we shall discuss this point more in detail.

Dr Whately contemplates, without alarm, the rise of education throughout the mass of the people, and recommends that the higher classes should occupy themselves in diffusing among them the blessings of moral and religious instruction; also, that the universities, and other institutions for ulterior education, should send forth men, qualified for the office of legislators and directors of public affairs, by a preparation analogous to what is required, even of the humblest artizan, the study of the subjects with which they are to be conversant.

From this condensed abstract of some of Dr Whately's views, his merits as a philosopher and author will be recognised by every man of an enlarged and benevolent mind. We shall earnestly expect the publication at a future period, of the entire course of his lectures.

ARTICLE VII.

INSANITY OF SIR ISAAC NEWTON.

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

SIR,

THE particulars relating to the insanity of Sir Isaac Newton have recently been brought into notice by Dr Brewster, in his *Life of that philosopher*. As I think the Doctor's conclusions not altogether correct, and as the subject possesses considerable interest in a phrenological point of view, I take the liberty to offer a few observations.

A manuscript of Huygens upon it, preserved in the library at Leyden, contains the following particulars: "On the 29th May 1694, a Scotchman of the name of Colin informed me, that Isaac Newton, the celebrated mathematician, eighteen months previously, had become deranged in his mind, either from too great application to his studies, or from excessive grief at having lost, by fire, his chemical laboratory, and some papers. Having made observations before the Chancellor of Cambridge, which indicated the alienation of his intellect, he was taken care of by his friends, and being confined to his house, remedies were applied, by means of which, he has lately so far recovered his health, as to begin to again understand his own *Principia* *."

This account by Huygens is corroborated by the following extract from a manuscript at Cambridge, written by Mr Abraham de la Pryme, dated February 3. 1692, in which, after mentioning the circumstance of the papers being set fire to, he says, "But when Mr Newton came from chapel, and had seen what was done, every one thought he would have run mad; he was so troubled thereat, that he was not himself for a month after."

In a letter to Mr Pepys, dated 13th September 1693, copied by Dr Brewster in his recently published *Life of Newton*, the philosopher himself says, "I am extremely troubled at the embroilment I am in, and have neither ate nor slept well this twelve-

* It is erroneously stated by Dr Brewster, that "this extraordinary effect was first communicated to the world in the *Life of Newton* by M. Biot, who received the above account of it from the celebrated M. Van Swinden." The circumstance is distinctly mentioned by Tissot, a Swiss physician, in his work on the *Diseases of Literary and Sedentary People*, published at Paris in the year 1768, and of which an English translation was afterwards printed in Edinburgh.

month, *nor have my former consistency of mind;*" and in another letter written on the 26th of the same month, by Mr Pepys to Mr Millington, we find the following sentence: "I was loth at first dash to tell you, that I had lately received a letter from him (Newton), *so surprising to me for the inconsistency of every part of it*, as to be put into great disorder by it, from the concernment I have for him, lest it should arise from that, which of all mankind I should least dread from him, and most lament for, —*I mean a discomposure in head, or mind, or both.*" On the 30th, Mr Millington, writing to Mr Pepys, says of Newton: "He told me that he had written to you a very odd letter, at which he was very much concerned; and added, *that it was in a distemper that much seized his head*, and that kept him awake for above five nights together, which upon occasion he desired I would represent to you, and beg your pardon, he being very much ashamed he should be so rude to a person for whom he hath so great an honour. He is now very well, and though I fear he is still under *some small degree of melancholy*, yet I think there is no reason to suspect it hath at all touched his understanding, and I hope never will." On 16th September 1693, nevertheless, we find Newton writing the following extraordinary letter to Mr Locke:—

"Sir, Being of opinion that you endeavoured to embroil me with women, and by other means, I was so much affected with it, as that when one told me you were sickly, and would not live, I answered, 'twere better if you were dead. I desire you to forgive me this uncharitableness; for I am now satisfied that what you have done is just, and I beg your pardon for my having hard thoughts of you for it, and for representing that you struck at the root of morality, in a principle you laid in your book of ideas, and designed to pursue in another book, and that I took you for a Hobbist. I beg your pardon also for saying or thinking, that there was a design to sell me an office, or to embroil me. I am your most humble and unfortunate servant,

"IS. NEWTON."

To this accusation Locke answered in an admirable and truly philosophical manner: "Though I cannot but be mightily troubled that you should have had so many wrong and unjust thoughts of me, yet next to the return of good offices, such as from a sincere good will I have ever done you, I receive your acknowledgment of the contrary, as the kindest thing you have ever done me, since it gives me hopes I have not lost a friend I so much valued;" and he concludes his letter by a request that Newton would point out to him "the places that gave occasion to that ——" that by explaining myself better, I may avoid being in the way of others, or unawares doing the least prejudice to

Newton's reply is important.

" SIR,

Cambridge, 5th October 1693.

" The last winter, by sleeping too often by my fire, I got an ill habit of sleeping ; and a distemper, which this summer has been epidemical, put me farther out of order, so that when I wrote to you, I had not slept an hour a-night for a fortnight together, and for five days together not a wink. *I remember I wrote you, but what I said of your book I remember not.* If you please to send me a transcript of that passage, I will give you an account of it if I can. I am your most humble servant,

" IS. NEWTON."

On this remarkable event in Newton's history, M. Biot, his French biographer, makes the following observations : " The fact," says he, " of the derangement of his intellect, whatever may have been the cause of it, will explain why, after the publication of the *Principia*, in 1687, Newton, though only forty-five years old, never more published a new work on any branch of science, but contented himself with giving to the world those which he had composed long before that epoch, confining himself to the completion of those parts which might require development. We may also remark, that even these developments appear always to be derived from experiments and observations formerly made, such as the additions to the second edition of the *Principia*, published in 1713, the experiments on thick plates, those on diffraction, and the chemical queries placed at the end of the *Optics* in 1704 ; for in giving an account of these experiments, *Newton distinctly says that they were taken from ancient manuscripts, which he had formerly composed ;* and he adds, that though he felt the necessity of extending them, or rendering them more perfect, *he was not able to resolve to do this, these matters being no longer in his way.* Thus it appears, that though he had recovered his health sufficiently to understand all his researches, and even in some cases to make additions to them, and useful alterations, as appears from the second edition of the *Principia*, for which he kept up a very active mathematical correspondence with Mr Cotes, yet he did not wish to undertake new labours in those departments of science where he had done so much, and where he so distinctly saw what remained to be done."

These remarks seem to me to be well founded. Dr Brewster, however, appears to think otherwise. A phrenologist would find little difficulty in determining between the two biographers. The brain is necessary to every act of thought, and intense and long-continued mental application directly exhausts its powers. The neglect of bodily exercise, and the concentration of the

whole nervous energies in the head, derange the functions of digestion, impair the vitality of the blood, and thus induce feebleness and irritability into the whole system of the body. The brain suffers indirectly; and the inevitable result is the inducement of incapacity for due performance of its functions. Newton was subject to this law of nature as much as the humblest individual. Dr Brewster, however, has attempted to overthrow the conclusions of M. Biot on this subject. From the circumstance of Newton's having written, in the months of December 1692, and January and February 1693, four letters to Dr Bentley, on the existence of a Deity, he contends that "*their author then possessed the full vigour of his reason, and was capable of understanding the most profound parts of his writings.*" These letters, however, it will be observed, were composed within the twelvemonth during which Newton states that he "neither ate nor slept well," nor had his "former consistency of mind." This malady, while it continued acute, was obviously of an intermittent nature, as appears from his letters to Locke; and it may easily be admitted that he possessed, at intervals, as much of his understanding as enabled him to treat, even in a masterly manner, a subject which had been so often discussed as the existence of the Deity. In consequence of this, and a few similar circumstances, nevertheless, Dr Brewster gives it as his opinion, that the mind of Newton in no degree whatever suffered. His concluding words on this subject are the following:

"During this period of bodily indisposition, his mind, though in a state of nervous irritability, and disturbed by want of rest, was capable of putting forth its highest powers*. At the request of Dr Wallis, he drew up an example of one of his propositions on the quadrature of curves in second fluxions. He composed, at the desire of Dr Bentley, his profound and beautiful letters on the existence of the Deity. He was requested by Locke to reconsider his opinions on the subject of innate ideas, and we find him grappling with the difficulties of the lunar theory.

"But, with all these proofs of a vigorous mind, a diminution of his mental powers has been *rashly* inferred from the cessation of his great discoveries, and from his unwillingness to enter into new investigations. The facts, however, here assumed, are as

* Dr Brewster is not a phrenologist, otherwise he would not have written such observations as these. What does he mean by a "*mind* in a state of nervous irritability and disturbed by want of sleep?" If he means that Newton's *brain* was in that condition, then it is clear that it could not "put forth its highest powers," because no brain can do so in the state of feebleness and exhaustion which he describes. If he intends to say that it was not his brain that was irritable and disturbed, but his mind itself, he should have explained two points, 1st, How an immaterial being (as he no doubt holds the mind to be) can be affected in these ways; and, 2dly, How, when so affected, it can put forth its powers as if unaffected.

incorrect as the inference which is drawn from them. The *ambition of fame* is a youthful passion, which is softened, if not subdued, by age. Success diminishes its ardour, and early pre-eminence often extinguishes it. Before the middle period of his life, Newton was invested with all the insignia of immortality; but, endowed with a native humility of mind, and animated with those hopes which teach us to form an humble estimate of human greatness, *he was satisfied with the laurels which he had won*, and sought only to perfect and complete his labours. His mind was principally bent on the improvement of the Principia; but he occasionally diverged into new fields of scientific research,—he solved problems of great difficulty, which had been proposed to try his strength, and he devoted much of his time to profound inquiries in chronology and in theological literature.

“The powers of his mind were therefore in full requisition; and, when we consider that he was called to the discharge of high official functions,” (allusion is here made to his office of Master of the Mint); “which forced him into public life, and compelled him to direct his genius into new channels, *we can scarcely be surprised that he ceased to produce any original works on abstract science.*”

With all humility, it appears to me that these conclusions savour strongly of a desire in the author to conform to the prejudices of the public. Newton's work on the Apocalypse and the prophecies of Daniel, on which assuredly none of his reputation has been built, is well known to have been the production of his declining years; and some have been so extravagant as to conceive the honour of Christianity to be implicated in the question whether or not the mind of the philosopher continued unimpaired till the time of his death. Dr Brewster has copied a letter, dated 7th February 1690–1, in which Newton alludes to his “mystical fancies;”—and argues that as this was written before the philosopher had lost his “former consistency of mind,” his theological work was the production of a mind in a state of perfect vigour. This position appears to be untenable, since there can be no doubt that the philosopher's distemper did not make a sudden attack upon his brain, but gradually increased during several years of excessive study. The reasons on which Dr Brewster founds his opinions seem to be exceedingly weak, when put in comparison with the facts brought forward not only by the French mathematicians, but even by himself. The irrestrainable activity of Newton's genius, in early life, could not have been curbed in its career of discovery, had it continued till a later period unchanged. The enumeration of the “ambition of fame,” and “laurels,” among the incitements of the proverbially modest and unassuming Newton, is so manifestly unwarranted, that I was not a little astonished to find some of

the sentences above quoted, in a work from the pen of Dr Brewster. Newton's own assertion, however, on this point, is of itself conclusive. "Though he felt the necessity of extending his experiments, or rendering them more perfect, *he was not able to resolve to do this, these matters being no longer in his way.*"—(See his Optics, end of second book). Lastly, Dr Brewster conceives that the employment of Newton's mind "in the direction of the affairs of the Mint and the Royal Society," sufficiently accounts for the cessation of his discoveries and the non-production of any original work. To this, however, various answers may be given. First, He made no important discovery, and composed no original work, subsequently to the year 1687, when he was only forty-five years of age; and it was not till 1696 and 1703, that he became Warden of the Mint, and President of the Royal Society; secondly, Amidst the "ample occupation of his time" in the duties of these offices, it appears that he had sufficient leisure to compose probably the whole of a "vast mass of unpublished manuscripts relating to chronology, church history, &c;" which were found after his death, consisting, according to Dr Charles Hutton, of "upwards of four thousand sheets in folio, or eight reams of foolscap paper, besides the bound books, of which the number of sheets is not mentioned;" but of the whole contents of which mass, *nothing "was thought worth printing except his Observations on the Prophecies of Daniel and the Apocalypse."* This fact alone affords decisive evidence that his brain was impaired in the latter years of his life. I am surprised that it did not strike Dr Brewster as strange that a mind like Sir Isaac Newton's, while "capable of putting forth its brightest powers," should compose upwards of 4000 sheets in folio, scarcely a hundredth part of which was worthy of publication. The powers which conceived the *Principia* must have given value to these folios, if disease had not laid much of their vigour prostrate.

Thirdly, With regard to the problem of which the solution was proposed to him by Leibnitz, it has been remarked by Biot, "that Newton only gave the differential equation for the problem, and not its integral, in which the real difficulty consists. This was the last effort of the kind; and he soon entirely ceased to occupy himself with mathematics; so that, during the last ten years of his life, when consulted about any passage in his works, his reply was, "Address yourself to Mr De Moivre, he knows better than I do." The same author relates an instance in which "he appears to have acted with inexplicable timidity," when Halley, Cotes, Dr Clarke, and himself, were called on to state their remarks on the bill for encouraging the discovery of a method for finding the longitude at sea. The three former gave their opinions verbally, but Newton read his from a paper he

the sentences above quoted, in a work from the pen of Dr Brewster. Newton's own assertion, however, on this point, is of itself conclusive. "Though he felt the necessity of extending his experiments, or rendering them more perfect, *he was not able to resolve to do this, these matters being no longer in his way.*"—(See his Optics, end of second book). Lastly, Dr Brewster conceives that the employment of Newton's mind "in the direction of the affairs of the Mint and the Royal Society," sufficiently accounts for the cessation of his discoveries and the non-production of any original work. To this, however, various answers may be given. First, He made no important discovery, and composed no original work, subsequently to the year 1687, when he was only forty-five years of age; and it was not till 1696 and 1703, that he became Warden of the Mint, and President of the Royal Society; secondly, Amidst the "ample occupation of his time" in the duties of these offices, it appears that he had sufficient leisure to compose probably the whole of a "vast mass of unpublished manuscripts relating to chronology, church history, &c;" which were found after his death, consisting, according to Dr Charles Hutton, of "upwards of four thousand sheets in folio, or eight reams of foolscap paper, besides the bound books, of which the number of sheets is not mentioned;" but of the whole contents of which mass, *nothing "was thought worth printing except his Observations on the Prophecies of Daniel and the Apocalypse."* This fact alone affords decisive evidence that his brain was impaired in the latter years of his life. I am surprised that it did not strike Dr Brewster as strange that a mind like Sir Isaac Newton's, while "capable of putting forth its brightest powers," should compose upwards of 4000 sheets in folio, scarcely a hundredth part of which was worthy of publication. The powers which conceived the *Principia* must have given value to these folios, if disease had not laid much of their vigour prostrate.

Thirdly, With regard to the problem of which the solution was proposed to him by Leibnitz, it has been remarked by Biot, "that Newton only gave the differential equation for the problem, and not its integral, in which the real difficulty consists. This was the last effort of the kind; and he soon entirely ceased to occupy himself with mathematics; so that, during the last ten years of his life, when consulted about any passage in his works, his reply was, "Address yourself to Mr De Moivre, he knows better than I do." The same author relates an instance in which "he appears to have acted with inexplicable timidity," when Halley, Cotes, Dr Clarke, and himself, were called on to state their remarks on the bill for encouraging the discovery of a method for finding the longitude at sea. The three former gave their opinions verbally, but Newton read his from a paper he

had brought with him, without being understood by any one. He then sat down, and obstinately kept silence, though much pressed to explain himself more distinctly. At last Whiston, the author of the bill, seeing it was going to fail, took on himself to say that Mr Newton did not wish to explain more through fear of compromising himself, but that he really approved of the measure. Newton then repeated, word for word, what Whiston had said, and the report was brought up. "This almost puerile conduct," adds M. Biot, "on such an occasion, tends to confirm the fact of the aberration of Newton's intellect in 1693."

I may here add, that Newton seems to have possessed the faculty of Concentrativeness in a very eminent degree. "During the two years which he spent in preparing and developing his immortal work, *Philosophiæ Naturalis Principia Mathematica*, he lived only to calculate and to think. Oftentimes lost in the contemplation of these grand objects, he acted unconsciously; his thoughts appearing to preserve no connexion with the ordinary concerns of life. It is said, that frequently, on rising in the morning, he would sit down on his bed-side, arrested by some new conception, and would remain for hours together, engaged in tracing it out, without dressing himself. He would even have neglected to take sufficient nourishment, had he not been reminded by others of the time of his meals. The following anecdote is told on this subject. Dr Stukely, an intimate friend of Newton, called upon him one day, when his dinner was already served up, but before he had appeared in the dining-room. Dr Stukely having waited some time, and becoming impatient, at length removed the cover from a chicken, which he presently ate, putting the bones back into the dish, and replacing the cover. After a short interval, Newton came into the room, and, after the usual compliments, sat down to dinner; but on taking up the cover, and seeing only the bones of the bird left, he observed, with some little surprise, 'I thought I had not dined, but I now find that I have.'" "To one who had asked him on some occasion, by what means he had arrived at his discoveries, he replied, 'By always thinking unto them.' And, at another time, he thus expressed his method of proceeding, 'I keep the subject constantly before me, and wait till the first dawnings open slowly, by little and little, into a full and clear light.' Again, in a letter to Dr Bentley, he says, 'If I have done the public any service this way, it is due to nothing but industry and patient thought.'" And, in another place, his biographer says, "In general the intensity of thinking was with him so great, that it entirely abstracted his attention from other matters, and confined him exclusively to one object. Thus, we know that he never was occupied at the same time with two different scientific investigations. And we find, even in the most beautiful of his works, the simple, yet

expressive avowal of the disgust with which his most curious researches had always finally inspired him, from his ideas being continually, and for a long time directed to the same object*. This unremitted and unvaried tension of a few particular organs of the brain would of itself have been sufficient to produce insanity; and the disgust which he experienced is accounted for by the extreme exhaustion of their energies.

The practical lesson to be drawn from these details, and which has been exemplified in the lives of many other illustrious men, is, that the brain, like every other organ of the body, cannot long continue faithfully to perform its functions without frequent intervals of ease and relaxation; and that excessive action terminates in the injury of the instrument of thought itself. The name of Newton only gives the lesson the more force, for the benefit of mankind. Even *he* was not permitted to defy the organic laws with impunity; and I feel that I do more good by bringing out the truth, than any one can do by concealing it, out of a mistaken tenderness to Newton's memory.

A cast was taken from the face of Newton after his death, and is still preserved in the University Library at Cambridge. A copy of it is in the Museum of the Phrenological Society. As the philosopher, however, died at the advanced age of eighty-four, and as his mental powers were greatly diminished during the later years of his life, it cannot be regarded as a faithful representation of what his forehead had been in the vigour of his days. It shews, nevertheless, a great development of the organs of Locality and Weight. In his bust and statue by Roubilliac, to be seen at Cambridge, the organs of the perceptive faculties are exceedingly prominent. These were the chief faculties required for his discoveries.

It is an interesting subject of inquiry, what induced Newton to turn his attention so much to the prophecies of Scripture. A very intelligent reviewer of Dr Brewster's work thus endeavours to account for it: "To us," says he, "it is sufficiently obvious. It was the original structure of his mind, which found a pleasure in clearing up what was obscure, and in reducing the perplexed and confused to order. The Prophecies, like the material universe, presented him with *problems to solve*, the exercise in which his intellect delighted, and they gratified, at the same time, his taste for the *occult*, which induced him to dabble in the mysteries of alchemy. We have known an individual with a strong turn for speculation, pass from the study of Magnetism (the most obscure of the physical sciences) to the Perpetual Motion, and from the latter to the Apocalypse; and the transition will not be surprising to those who have observed the influence which our primitive mental habits have over our pur-

* See the T-superintendence

Biot's Life of Newton, published under the
the Diffusion of Useful Knowledge.

suits. It was a kindred quality of mind which led Kepler to seek for mystical harmonies in the planetary system, analogous to musical chords, or the proportions of the six regular solids. We do not mean to place Newton's religious writings on a level with Kepler's wild imaginations; we wish merely to point out the connecting link in the mind of each between studies which appear so dissimilar."

There is much force and truth in these remarks. It is laid down in phrenological works, that the organ of Wonder gives a strong aspiration after what is *new*, and that the same faculty, when in high endowment, or in a state of great excitement, gives its possessor a fondness for, and a disposition to pry into, the miraculous and supernatural. The zeal of Newton and Kepler in searching for the hidden in *nature*, was undoubtedly heightened by the same sentiment which directed them to other pursuits; and in both philosophers, I doubt not, the organ of Wonder was largely developed.

Finally, it is consoling to phrenologists to know, that Newton's discoveries met with if possible a less favourable reception from his contemporaries than even those of Dr Gall. His Theory of the World, like his Optics, encountered much vexatious opposition. It was "everywhere resisted by errors and prejudices which had taken a deep hold *even of the strongest minds*;" and at his death, more than forty years after the publication of the Principia, he had not, as Voltaire observes, above twenty followers on the Continent! The tardy adoption of the Newtonian Philosophy in England is well known. "The slow progress," observes the author just quoted, "of truths so simple, irrefragable, and beautiful, explaining an infinity of phenomena with such ease, shews, in a striking light, how education and habit triumph over reason, and how the advance of knowledge is impeded by the vassalage of mind to established opinions." Posterity will speak of Phrenology in similar language. I am, &c. Q. M. Q.

ARTICLE VIII.

COURSE OF STUDY IN THE RECTOR'S CLASS, HIGH SCHOOL
EDINBURGH, during the Session ending August 1831.

PRIZE-LIST, PUBLIC EXHIBITION-DAY OF THE EDINBURGH
ACADEMY, Friday 29th July 1831.

SINCE publishing our contrast of schools for Knowledge with schools for Latin and Greek, in the preceding number of this Journal, we have seen the above reports for the year ending with July 1831, of the studies prosecuted, and prizes awarded, at the High

School and Academy of Edinburgh respectively. Our readers will remember a passage or two of strictures, in our sixth volume (page 538), on the inutility, and even absurdity, in relation to the youthful brains which were tasked by them, of the subjects given out for themes in the year 1830, in the first-named seminary *, and of regret, that sounding paragraphs, necessarily destitute of ideas, were mistaken for evidences of mental cultivation and knowledge, and that conceit and ignorance, which are the natural results, were fostered and perpetuated by rewards, honours, and applauses. We expressed our conviction of the difficulty of reforming a system, which, although felt by many to be much behind the intellectual position of the age, is supported by men of unquestionable worth and talent; but who, from the very nature of their pursuits and habits, labour under strong prejudices, and are unacquainted with the power of practical knowledge. These able and excellent persons, moreover, owe to the system their means of life, and status in society; from fashion, or indolence, or ignorance, in the public at large, their influence is yet paramount in all questions of education; while there is no counterpoise, in any competitory institution for the diffusion of practical knowledge in Edinburgh. To say nothing of the sway of *establishments* upon the opinions and practical resolves of society, or of the enormous *communis error* that what is called an unclassical education does not become a gentleman, we ask, to what point of the compass can an inhabitant of Edinburgh, in easy circumstances, who has a boy to educate, turn, that either the High School or the Academy does not close his vista?

Moreover, seeing on the one hand, that this, like all other institutions defective, not merely in details but in principles, never will reform itself, and, on the other, that the community is not yet prepared to reform it from without, we are no way surprised, at the end of yet another year, to find the High School, with Latin and Greek reigning quite as indisputably in its new and spacious halls, as they did in the dusky rooms of James the Sixth's time; and, notwithstanding the addition of some other instrumentary branches of education, still misemploying the faculties, and retarding the preparation for active life, of six hundred of the elite of the youth of the place nicknamed Modern Athens.

Turning to the Prize-List of the Academy, we find the same system miscalled Education in equal monopoly. Latin verses, Greek verses, English verses, speech of Galgacus to the de-

* 1. Was the attack of Saguntum by Hannibal, and the invasion of Italy, justifiable on the reasons which he alleges? 2. Which was the abler general, Cæsar or Hannibal? 3. On the progress and decline of commercial nations.—And thirteen other questions, *ejusdem generis*, which it would have required the ablest tacticians, politicians, and philosophers to answer.

feated Caledonians, Alexander's speech to his mutinous army, Bolingbroke put into Latin; the battle of the Trebia; Æneas' address to Dido; the ransom of Hector's body; Cornelia; Ode to Echo; ditto to Winter; Arthur's Seat, &c. &c. ! The prizes are awarded for *scholarship* according to the place of the pupil in the class, and for particular merits, scholarship being the grand staple of the school. The particular merits of the highest or seventh class are, best Grecian, best Greek prose, best Greek verses, best Latin verses, best English prose, best Latin prose, best Geometrician, best Algebraist, best French scholar, best French composition, best French 'reciter. It must not be forgotten, that the Academy was instituted as a professed advance on the High School; as a *higher* school than the High School, and of course for the purpose of affording a more perfect and choice system of education. Many of the first men of the place combined their knowledge, influence, experience, taste and money, to render it a seminary distinguished by the latest improvements, refinements, and solid advantages of modern education. It will astonish a more enlightened age than our own, that the first-rate men of the second quarter of the nineteenth century, had views of education no higher than this system exhibits; and that they continued to meet annually, to declare themselves not only satisfied with, but proud of such attainments as we have enumerated, as the fruit of seven years labour in their sons; and these the valuable unrecallable years from eight to sixteen; but it will most of all astonish a more enlightened age, that the men of the present day willfully bandaged their own eyes, or with their eyes wide open, persisted in *patronising* so deplorable a waste of time, and perversion of intellect, although too well aware, from their own experience, that the education which is to fit for active life has yet to begin after all these prizes for long and laborious trifling are awarded, and all these applauses bestowed.

But the evil does not end here. At fifteen or sixteen, though late, it is still possible to begin an introduction to useful practical knowledge. The knowing organs are yet in youthful vigour, and appetised for their natural food,—information about things and the relations of things; but, alas! this feast which nature spreads, is especially withheld from the young man, whom it is resolved to continue in the course of what is woefully misnamed a Liberal Education. In his case, special, laborious, and expensive care is taken to exclude the chance of his picking up even stray knowledge, by engaging him engrossingly, often to the injury of his health, in pursuits which are incompatible with his doing so. When *finished* at the Academy, or the High School, he is said to be "prepared for College," and it is the greatest boast of a grammar-school, that its pupils are well fitted

for this advancement, and are renowned for bearing away the university honours. Now College, in the sense for which this preparation is made, does not mean higher attainments in physical and moral science,—fresh stores for the knowing, and nobler exercise for the reflecting faculties. It means *more* Latin and Greek, as if seven years were not enough!—it means advancement in the “Higher Classics,”—a greater elevation still above all knowledge or accomplishment that is to be of practical use in the attainment of good and the avoidance of evil in after life. The academy keeps an eye upon its former alumni, and glories in their progress in the *dead* languages. A report by the Rector is appended, in which that learned person speaks with evident exultation of the rank taken by his pupils at College. One carries off two *scholarships* at Oxford, from twenty-two candidates, after an examination of three days’ duration, consisting of translations from Greek and Latin authors,—of compositions in prose and verse, both in the Latin and English languages,—of mathematical propositions,—and of a long list of historical, geographical, and chronological questions. Another obtains the gold medal for an accomplishment, for which, most certainly, the Academy did not prepare him,—writing essays in the Moral Philosophy class in the University of Edinburgh. A third bears away the Lord Advocate’s gold medal as the best scholar in the Humanity Class (*Literæ humaniores*, but only Latin after all) in the University of Glasgow; and two others have prizes and bursaries for their Latin verses and Greek proficiencies. There is no part of this solemn mockery of intellectual cultivation more tantalizing to the friend of rational education, than the indisputable fact, that these honours are borne away by efforts not in the direct, but in the inverse ratio of the value of the attainments rewarded. The labour is so great as often to be fatal to health. Such of the faculties as are in requisition—for many more are left in utter abeyance—are subjected to excessive exercise, and often perform incredible feats. Self-esteem and Love of Approbation, the constituents of emulative ambition, furnish an impulse which makes light and almost pleasurable, tasks, which, without their activity, would be an intolerable grievance. While we look with regret at the inutility of the object achieved, we marvel at the perseverance and the talent which has been misapplied in the achievement. In the course of study in the Rector’s class of the High School, and the Report of the Public Examination of the Academy, there are literary performances of great merit, nay truly wonderful for the tender years of their juvenile authors; and which, were they not *all* that has been attained, were they an elegant surplussage to much useful knowledge and practical wisdom, the fruit of ease and relaxation, would be *autant gagné*, a grace certainly

well worth possessing; but when they *are* all the hard earnings of the toil of the noonday and the midnight, and when any knowledge which raises the Latin versifier above the intellectual level of a baby has been picked up any where but at school, it would be matter of amazement that so senseless a system is permitted for another hour to occupy the seat of education, were it not for the reflection, that the men who suffer its continuance were once the boys whom it cheated of sound knowledge and intrenched in impregnable prejudice, on many points, but on none more than as to what constitutes a good education. A sound practical philosophy of mind, in other words Phrenology, must, itself, form a leading branch of the education of the parents themselves, to enable them to perceive the moral and intellectual wants of their children,—to distinguish the faculties which require regulation, from those which need excitement, and to appreciate the objects and the subjects fitted to those faculties, before the time will come that the languages of two tribes of the human race that have been above a thousand years extinct shall cease to be worshipped, as in themselves the essence of human knowledge.

It is a most painful reflection to the phrenologist who reads these prize performances, that the same time, talent, and labour, properly directed, would have rewarded the young authors with an extent of knowledge, accomplishment, and resource, which few of the self-educated attain in after life; and worthily prepared them for college,—college being then what it ought to be, a guide to yet more extended knowledge of the works and ways of the Creator, in all their beautiful and benevolent harmonies.

But the monachism which excludes all this cannot last greatly longer. Not only is the press erecting against it its batteries in all directions, but pointing to another and a better system in actual operation and formidable rivalry. The Wilderspains and the Mayos are “abroad” in Britain, and the Pestalozzis on the Continent. Other schoolmasters may stay at home. A ragged orator who lately applied to the Lord Mayor for a few shillings and a pair of old shoes to carry him home to Ireland, remarked, with exquisite sarcasm, “That he had heard much of the schoolmaster being abroad in England, but that he had not had the good fortune to find any body who had met with him.” Now his disappointment really arose not from the difficulty of meeting the schoolmaster, but from the utter practical uselessness of the schoolmaster when he is encountered.

One credit is due to the conductors of both the Edinburgh seminaries. We do not observe, in the curriculum of either, one of the profligate and abominable ancient authors:—we do not see the reports blotted with the names of the atheistical Lucretius, the corrupting Anacreon, the beastly Catullus, and

many others, that, unfortunately for morality and religion, escaped the flames of Alexandria; and, although Juvenal does appear, the studies are said to be selections, and we trust the sound and not the rotten part of the fruit is included in that word. The heathen Pantheon is bad enough as the study of youth in a Christian country; but many of the classics, if followed as practical guides, would lead to expulsion from honest and decent society, and stoning by the populace. We should be too precipitate to expect, in our time, to see the masters of these two grammar-schools pensioned off, or left to teach the dead languages, as French and Italian are taught in our city, only to those who chuse to apply for them; while the commodious and extensive buildings and grounds should be converted into judicious seminaries of practical and real knowledge; but these changes *will* arrive, and, in anticipation of their approach, we shall briefly sketch an outline of the improvements which we desire.

We have no hesitation about the occupation of the six invaluable years from two to eight. Of these, six hours a-day, without exception of sex or rank in life, should be spent within the bounds of an infant school, regulated and conducted on the plan and principles of Wilderspin's system. We are quite prepared to meet all objections to this grand novelty in education. There are many whose organization impels them, without reflection, to object, of course, to every thing which is new to the limited scope of their own experience; and there are not a few who persevere in hostility to every thing that is important and useful. Let any one candidly reflect how much previous consideration he bestowed upon the subject before he took a part in the current objection to the universality of infant training,—that it may do very well to collect into large schools the children of the poor and profligate, who have worse than no parental care or tuition bestowed upon them; but it is a libel upon mothers a grade above that wretched class, to say that they cannot look after their own children; it is to weaken the maternal tie, and so forth. Such objections, besides being made without a moment's reflection, spring from profound ignorance of the object of infant-school training. It is systematic, continued, practical moral exercise, to the incalculable improvement of the dispositions of the young, the regulation of the selfish and vicious, and the increased strength of the social and generous feelings. Now, these blessings are not to be attained in the best regulated nursery in the kingdom, even under the vigilant eye of the most careful and indefatigable mother. One reason is sufficient, the human mind is by nature social, and it cannot put forth its earliest buds with success except in a social atmosphere. This truth has never been followed as a practical principle except in

infant schools. Numbers are indispensable to form an infant society, in which the moral feelings can be properly exercised, and the selfish repressed. The largest family will not furnish this element: they cannot be numerous enough between two and six years of age, and they do not present to each other the relation of strangers, or a little *public*, for the excitement of the disinterested feelings, and the repression of the selfish. The moral influence of numbers on the youngest child is prodigious, and is perhaps the most powerful engine the teacher employs. The most enlightened and watchful mother wields it not with her three or four children. She will find, for example, that, without it, she makes no way in many important parts of the training which depend upon the judicious exercise of Love of Approbation, for this faculty is dormant, or next to it, at home. The love of praise, and the fear of shame, are there equally inoperative; Veneration is also in weak action; the mutual respectfulness, the reciprocal deference of equals to equals, who are strangers to each other, can have no place in a nursery, with all its daily and nightly familiarities; while, in its unavoidable sameness, there cannot arise that variety of incidents and position which at once exercises the feelings, and keeps alive the faculties. But we grant too much when we concede to any mother the qualifications and the means for the arduous engrossing task of systematic and efficient moral training. It resembles the incessant work of a day-labourer: it must not relax; it must be steady, regular, unceasing, or it is nought. A mother must give up every other occupation, pursuit and enjoyment, for this one duty, and, after all, she will perform it imperfectly; for there is yet no adequate practical knowledge among mothers, or fathers either, who reject the aid of Phrenology, or have had no opportunity of being taught by it what are the human faculties active in infancy, and the modes in which they may be made to modify each other. Nay, we know mothers who are thoroughly imbued with phrenological principles, and perfectly able to apply them practically in education, who could themselves conduct, were it their occupation, an infant school, and yet confess that they cannot succeed to the extent of their wishes in their own nurseries. No family arrangements admit of the children being constantly with their mother: the nursery-maid must share largely in their company; and we need not describe *her* training of the children. Hence much done by the mother is undone by the servant, and it is found that no satisfactory progress is made. We can at least speak for ourselves, who have paid some attention to the principles and practice of infant training, both at home and abroad; *we* greatly prefer the regular system of Miss Brown's infant-school in Saxe Cobourg Place to our own nursery, and there we send a little student of

morals, of four years old, for several hours every day. We therefore confidently repeat, that the moral advance of the rising generation would be vastly promoted by an *universal* resort to infant schools. The actual comfort of families, the happiness of the individuals trained, and the change on the whole face of human intercourse, which, in the course of a single generation, would be effected, is beyond the conception of those who contemplate only that hard mass of selfishness, sensuality, and mutual distrust and annoyance, instead of mutual solace, called society.

The intellectual training for an infant-school should be the same familiarization with objects natural and artificial, and their obvious qualities, which is given to the younger classes of Dr Mayo's school. This, with the instrumentary branches of reading their own language, the first lessons of the French, writing, arithmetic in its simpler rules, geography, with much information about the productions of foreign countries, together with a great deal of miscellaneous knowledge of common things, and an acquired tractability, docility, and zeal for farther improvement, may be said to fit the children, at eight years of age, for advancement to the High School or Academy, as these institutions shall be constituted on improved principles*.

What may not be acquired in the seven years from eight to fifteen, if Latin and Greek are taken away, and these valuable years filled up with real knowledge and accomplishment! Knowledge being progressive, what is already acquired will form the basis of farther investigation; what in the child's school was introduction to objects, their physiognomies, qualities, and uses, will now be their analyses and combinations in chemistry;—their powers, laws, and relations in mechanical philosophy;—together with the application of these practical sciences to the arts of life, witnessed in visits to manufactories and works of all descriptions. As this is the season of life for the storing of the knowing faculties, mineralogy and botany, zoology, and the wonders of entomology, will then be best acquired, and all the other branches of natural history, the use of the globes, the simpler parts of astronomy, and all the knowledge which depends on mere observation, which is postponed, at present, till after the long course of Latin and Greek is finished, and *therefore* absurdly considered as the province of adult students, and not of boys. Yet we are certain that the latter will make by far the most rapid progress in it, and store it most permanently for future use. The task is light

* There is nothing more injurious to the cause of infant-training than the self-sufficient and conceited attempts of infant schoolmasters to *improve* upon Wilderspin. We have visited some, where, on the strength of several *deteriorations*, although the plan was essentially that great master's, we found him utterly disowned and denied!! This dishonesty is an indifferent basis for moral training.

compared to that which they now perform ; and, moreover, properly conducted, every step would be pleasure, instead of dullness and weariness, which it requires medals and rewards to furnish motive to submit to. We know girls of twelve years of age who have made great progress in botany, arranged a hortus siccus in neat books, and made drawings of many plants, and who have moreover become very tolerable mineralogists. A Greek verb is a more serious task than the whole class of the Cryptogamia. At no period of life are the organs in better order for acquiring and retaining a knowledge of the animal structure, including the human, than from twelve to fifteen ; and, with the structure the functions, in a well arranged system of physiology. From this, the transition is easy and natural to a knowledge of beneficial and hurtful influences, and to the very simple practical rules, not for curing disease but, for preserving health. What a flood of human misery might be shut out by such an enlightened course, which at present rushes in through all the open flood-gates of human ignorance ! Knowledge of consequences would precede and exclude evil habits, whether these last offered themselves in the form of sensual indulgences, indolence, excessive study, or any other defiance of the organic laws which are the conditions of health established by the Creator, as well of mind as of body. Closely connected with the anatomy of the nerves and brain, indeed identical with the latter, is the organology of Phrenology ; of which, and of all the inductive part of the science, boys at fifteen may and ought to be complete masters, as well as of the principles of ethics to which it leads ; and have a thorough practical conviction that the arrangement of Creation is in accordance with the Supremacy of the Moral sentiments and Intellect over the Animal Propensities ; a truth old in Scripture, but new to ethics and human practice, a truth the most important in its height and breadth, and depth, and all-pervading in its application to human concerns that has yet dawned on philosophy, which the most advanced student of the relations of social man will find the load-star of his course, steer he whithersoever he will through the expanse of the moral universe, and alike his touchstone search he into the minutest crevices of domestic life and individual motives ;—at once the telescope for the vast, and the microscope for the minute, the blood with which the heart swells, and the extremest capillary beats, the soul of Christianity, the Kingdom of Heaven.

The diversity of studies will, of course, require a minuter classification, and that according to the ages of the boys and their proficiency, than the present seven divisions ; but the branches, however numerous, will produce order, and not confusion ; for they will be in harmonious and co-operative relation to each other ; and this will be a great improvement upon the

isolation, in our present education, of different branches of knowledge, taught by means of distinct, uncorrespondent, and often conflicting professorships. Teachers with each other, and all with the pupils, will be in free, and friendly, and mutually enlightening and animating communication, so that the fitness of things, the dependence of every part of the Creator's works upon every other, and the beautiful adaptation of the whole to the faculties of man, in all the harmonies of adorable wisdom and benevolence, shall possess the youthful mind as a living practical principle, and implant there the love of God, as inseparable from the contemplation of his being. It is obvious how the moral training of the infant period may be matured in this more advanced seminary; for here, without wasting an hour in positive precept, mutual respect, justice, benevolence, and beneficence, with the other feelings which constitute moral beauty and true refinement, will, in the very employments and arrangements, in the whole economy of the establishment, be daily and hourly exercised, and the best institutions of society practically illustrated, and even acted upon; while Christianity itself must take root more and more deeply and widely in a soil every day rendered fitter for its luxuriant growth, and living fruit.

We cannot in this general sketch go more into details. Every thing should be taught and practised which will store up knowledge, and increase resource, and that to all the pupils, as indiscriminately as the faculties extend, which, although in different degrees, all men possess. The energies of particular talents, known from the organization, and brought out in the course of the pursuits, may and ought to be provided for by means afforded for their cultivation, either within the school or elsewhere; for example, all may and should draw common objects, and lay down simple ground-plans; but the painter, the sculptor, and the geometrical surveyor, will follow their genius much farther. All may handle a chisel, a hammer, or a saw; but the marked mechanic and engineer will proceed to the head of their specific profession. Languages, modern, and ancient too, will be provided for, but in the briefest and most perfect, and least wearisome mode of communication; mathematics, as well geometry as the science of numbers, will be taught to all, and carried to the height which the organization of the individual permits; while the airing-ground, which should consist of some acres, will give scope for gymnastics including swimming, gardening in connexion with botany,—even the rudiments of agriculture, with carpentry, masonry, application of mechanical powers, and other useful and health-bearing labours. Instead of sitting for hours, on a bench, perhaps without a back, to the contortion of the spine, and disuse of the

muscles, nerves, and brain, breathing azote, and loathing the same dry unsavoury food which palls upon an organ to which a feeble appetite generally belongs, the organ of words, and, of consequence, being unhealthy and miserable,—the lively joy of all ages, but by the wisest provision of Benevolence, pre-eminently of the years of youth, the joy of excitement of all the organs of the brain, intellectual and moral, and, under the guidance of these we may add, animal, the active use and employment of the whole physical and moral nature, will render the seven years of the *then* High School and Academy, not as at present a period of suffering endured in the belief, however mistaken, of its leading to after enjoyment; but a portion of the substantial happiness of life, perhaps more positively valuable to the individual than that maturity itself, for whose fulness and usefulness it is the admirable preparation.

Succeeding as a higher station yet of the intellectual and moral ascent, what College ought to be, to take its worthy place in the progress, must now be obvious. It must be mainly a school of Causality and Comparison,—the combining and reasoning faculties of man. Much of the knowledge, and it may be arranged by prolonging the time nearly all, upon which these faculties act, will be brought from the previous schools; and a sound logic, a practical ethics, a simple theory of legislation, and a fruit-bearing political economy, will establish themselves in the mind, almost without an effort, and with the most delightful reality of application. Recognised principle will take the place of endless controversy, the perverted use of the reflecting faculties; and human affairs will present themselves in harmonious simplicity, instead of confusion inextricable. A thorough knowledge of man's physical, animal, moral and intellectual nature, and of the relation to that nature of external things with their qualities and influences, will unite all minds in the removal and avoidance of those causes of evil which man's ignorance and selfishness produce, and in the acquisition and command of the happiness which the Creator obviously designed as the reward of obedience to his laws in this life,—the essentials of that happiness constituting the best, the sole, preparation for the enjoyment of a better. The Faculties, as they are called, of Law, Medicine, and Theology, and these greatly purified and improved by a sounder philosophy, will, of course, have their respective chairs in a well regulated university.

Such would be a complete course of education, and all attained by the age of twenty-one. The individual will not, as is now the case, have to begin at that age to educate himself, and most imperfectly, in the elements of knowledge; he is ready to advance unretarded in the onward course of observation and combination, and the practical consultation of his own good, and

the good of his species, which, in a more enlarged sense, renders the education of man commensurate with his life's duration.

When we reflect that, however convincing to the intellect such a picture may be, there is an array of passions and interests against the realization of such an educational reform as may, and probably will, postpone its blessings for another generation, the conviction of its value and urgent necessity becomes only the stronger. But let not those who devote their lives to advocating such meliorations of human lot say that they go unrewarded; let them not complain even that their present return from that society which they labour to benefit is derision and reproach. The certainty that an enlightened posterity will adopt their views, and reap the rich harvest of which they are humbly sowing the seed, is a source of intense pleasure, and a full compensation for present unpopularity, which, springing from ignorance and perverted feeling, is even itself far more flattering than the loudest acclaim of praise issuing from the same sources.

One event would hasten, in Edinburgh, the reform which we advocate, by half a century,—the actual establishment, either by individual enterprise, or the joint stock of an association of enlightened individuals, a seminary for boys, from eight to fifteen, on the principles we have recommended. This would be far more efficient than the gradual enlargement of the present system. In this the teachers of course will do nothing, and their patrons very little, just because they do not see the defects, and will always consult with the teachers, as to the expediency of any change whatever. But an actual Pestalozzi institution existing, and forcing its excellencies upon the most prejudiced by the immense superiority of its pupils over all others, in accomplishment, good sense, zeal, and youthful happiness, would in due time empty the halls of the dead languages, and force the authorities to replenish them by adopting the new system. Already the want is felt. We have often been told by parents that they are forced, against their better judgment, to embark their boys in seven years of Latin and Greek, just because there exists no other education for them. "What *can* we do?" is a question often put with the emphasis of perplexity and regret. What an opening for three or four men of talent and enterprise to supply, even on a small scale, this great want, and fairly make the experiment!

ARTICLE IX.

LETTERS TO A YOUNG NATURALIST ON THE STUDY OF NATURE AND NATURAL THEOLOGY. By JAMES L. DRUMMOND, M. D., Professor of Anatomy and Physiology in the Belfast Academical Institution. Longman and Co. London, 12mo, pp. 342.

THIS is an admirable little work for young persons. It is elegantly, and occasionally eloquently written; discursive in its character, embracing a variety of topics, gracefully introduced, and ably treated; replete with fine sentiment, regulated by enlightened intellect; and it is ornamented by wood-cuts, executed in a superior style of art. It is not so purely scientific as to be dry, nor so profound as to puzzle the young understanding; while, nevertheless, philosophical principle pervades every page. But its great charm to us is the just perception and the glowing eloquence with which the author urges on the attention of the reader, the beautiful adaptation of the external world to the faculties of Man. The spreading hoof of the camel, viewed in relation to the soft sands of the desert; and the Lapland moss flourishing in winter, considered in connection with the organic wants of the reindeer; are universally recognised as exquisite specimens of divine adaptation of living beings to their external circumstances. But it has not yet become a point of general belief, that an equally admirable wisdom is displayed in the adaptation of each of the human faculties to certain objects in external creation, and that the discovery of this relationship, and its application to purposes of mental enjoyment, constitute the highest exercises of the rational powers of man. Dr Drummond is alive to this truth, and a leading object of his work is to enforce and illustrate it, and he does so with great ability and success. We do not know whether he is a phrenologist; but we recognise in his book principles which we can scarcely believe it possible for him to have arrived at without a knowledge of this science; and, in particular, there is a consistency in his views which is rarely or never attained without it. We copy the whole of Letter 19th as a specimen of the work, and entreat of the reader not to be afraid of its length. If he begin the perusal, he will thank us for presenting it entire.

" LETTER XIX.

" My chief object in the preceding letters, has been to impress upon your mind the importance of studying the works of Nature with a continual reference to the Great and Almighty God.

whose offspring they are : and though the observations contained in what has thus far formed our correspondence are not very extensive, yet they are still, I hope, of sufficient variety and value to stamp a deep conviction on your mind, that Natural Religion is a subject of the highest moment to an intelligent being ; that it should not be neglected ; that it forms a source of the purest contemplation ; and that it gives us the most exalted conceptions of the power, wisdom, and beneficence of the Deity. But if this be so, why is it, as respects the great mass of mankind, almost a dead letter ? That it is so, cannot be denied. Where is it taught to them ? From what chair is its study recommended ? Is it considered by the learned, in general, as worthy of consideration ? or is it in any way given to those who would, from their sincere love of truth, consider it as invaluable ?

“ It may be said, indeed, that there have always been writers on Natural Theology. Cicero, for example ; and, in England, Ray, Derham, Paley, and others. This is very true ; and I wish the number of writers on it had been ten times greater than it has ; but, still, natural theology never has been taught to the people in any country, nor pains been taken to raise it to the elevation it deserves ; on the contrary, indeed, superstition, ignorance, and motives of self-interest, are ever active in disparaging and suppressing it. To children, especially, I consider that we act with the greatest injustice ; for they almost all are eager for the knowledge of the productions of nature ; and the fund of information which might be imparted to them, combined with impressive illustrations of the power and goodness of their God, could not fail, whatever religious tenets they might be brought up in, to have a beneficial effect on all their future life.

“ For communicating a knowledge of natural history to youth, much might be accomplished by attaching to seminaries of education, collections of specimens from the different kingdoms of nature, and employing works on natural history among the regular school-books. The Menageries, Insect Architecture, Insect Transformations, Vegetable Substances, and those volumes on similar subjects in the ‘ Library of Entertaining Knowledge,’ are admirably adapted for somewhat advanced scholars, whether boys or girls. A microscope also, as has been recommended by the highly-talented editor of the Magazine of Natural History, &c. Mr Loudon, should form an indispensable requisite of every boarding school ; and the scholars, not mere children, should each possess a magnifying glass for examining small objects, especially minute flowers. One great object, however, in all these places, would be, that the teachers should cultivate in themselves a taste for natural history, as that would give them the means of imparting a knowledge of it in many

ways to their pupils. But now comes the bugbear question, which is so often the fertile source of hinderance to improvement — ‘Will it not take them off their other concerns?’ I answer, No. My friend the Reverend J. R. Bryce, Principal of the Belfast Academy, and his brother James Bryce, Esq., who for some time have had a collection attached to their excellent place of education, have satisfactorily proved this, by showing how the thing works in actual practice; as the following letter, which, at my request, those gentlemen have been kind enough to furnish me with, will fully explain:—

“MY DEAR SIR,

Belfast, 30th August 1830.

“I have great pleasure in giving you, according to your request, a statement of the circumstances connected with the introduction of natural history as a regular part of the course of elementary education in this seminary.

“The Academy, as you are aware, consists of a number of distinct schools, each superintended by a master, who gives his whole attention to his own department, and receives the whole of the profits arising from it; and it is the duty of the Principal to see that each master conducts his school with diligence, and on a judicious plan. Several attempts had been made to introduce the physical sciences into the mathematical school, but with little success. A few of the advanced pupils were occasionally taught the elements of natural philosophy and of chemistry, but there was little demand for such instruction. At length, in the summer of 1828, my brother, who, on my appointment to the head of the Academy in 1826, had succeeded me in the charge of the mathematical school, fortunately thought of adding mineralogy and geology to the usual course of geography. This was, in fact, only completing the geographical course by the addition of physical geography, which had till then been omitted. The pupils, whose ages varied between the extremes of eight and eighteen, all entered with the greatest eagerness into these subjects; so much so, that at first sight I was short-sighted enough to feel some apprehension of their being led away from their severer studies by this new and fascinating pursuit. But I was soon set perfectly at ease; for there was, in a very short time, a marked improvement in the manner in which the other parts of their business were performed by those lads who had given themselves most passionately to mineralogy and geology. This was what I ought to have expected. When a taste is formed for any one intellectual occupation, it is easy to ingraft upon it a fondness for another. When a boy has found pleasure in exerting his faculties upon one subject, he is naturally led to try them upon others.

“ ‘ But this was not all. Several of the young mineralogists had been introduced by my brother as visitors at the meetings of the Belfast Natural History Society, of which you know he is a zealous member. They had been pleased ; and they wished to have some better means of enjoying such pleasure than by being spectators. Accordingly, one morning, after the lecture, they surprised their teacher, by laying before him a plan for the establishment of a similar society among themselves, which they proposed to call ‘ The Academical Natural History Society,’ and of which they requested him to become president. My sanction, as head of the Academy, having been asked, and given most cordially and joyfully, the Society was constituted accordingly, for the objects ‘ of giving mutual instruction in the various departments of natural history, and of forming a museum for the Academy.’ This took place on the 30th of October 1828, at which time the Academy did not possess a single specimen, nor a box or shelf in which specimens could be kept. It has now a collection of minerals, which, for the value of the specimens, and completeness of the suites, has been pronounced by good judges to be the third or fourth in Ireland. There are also a few good specimens of stuffed birds, and a considerable number of shells. A glass case has been erected at an expense of about twenty pounds, in which the more attractive part of the collection is kept. The money required, was raised partly by contributions among the young people themselves, and partly by the donations of a few lovers of science in the town and neighbourhood, most of them belonging to the circle of my brother’s personal friends. Of the specimens, the greater part have been either purchased or collected by the individual exertions of the members of the Society. One shoots a snipe or partridge on a holiday ; another contributes the *defleta membra* of his sister’s canary bird ; a third proudly deposits in the treasury of science the piece of rock-crystal, or calcareous spar, which he had hitherto regarded only as a glittering toy ; an East Indian presents leaves from an oriental plant, used for writing upon by the Birmese, and covered with characters ; the captain of a West Indian ship presents a fine conch, or a magnificent piece of coral, to a young favourite, and it is joyfully transferred to the museum. The young naturalists, in their holiday excursions, are always mindful of an enterprise of which they are justly proud ; every visit to the basaltic hills in the neighbourhood enlarges their already rich and beautiful collection of zeolites ; and pupils from a distance bring, at the close of each vacation, the rocks and minerals of their native localities. And you are not to imagine that these young people possess a flimsy or superficial knowledge of the subject, or a mere knowledge of names. You will find them excellent practical mineralogists, capable of

deciding accurately what specimens are worthy of being kept, and what are to be neglected or thrown away. And a continued series of exertions of this kind, where each individual service costs little or nothing, amounts to something in the end. After all, however, the chief part of the mineralogical collection has been purchased, with great judgment, and to great advantage, out of the funds of the society. Some valuable donations have been received from *externs*; the most remarkable of which was a collection of native shells, containing about a hundred distinct species, gathered by a lady with her own hands on the beach of Lough Foyle, for the express purpose of being presented to the museum.

“ ‘ The Society of our young naturalists meets once a fortnight, when papers are read by the members in rotation, and conversations held, arising out of the papers.

“ ‘ I consider this one of the most important improvements in education that we have yet effected, although we boast of some that are considerable. You are pleased to speak of me as having some share in this one; but I must disclaim all, except the negative merit of having encouraged and sanctioned it. The credit of the first thought, and of the persevering exertion which reduced it to practice, is all due to my brother James.

“ ‘ I ought not to forget, that the parents of the children have noticed a marked change in the habits of such of them as have been taught geology. It has made them more animated and intelligent; and, by giving them a rational pursuit in their hours of amusement, has done more to ‘ keep them out of mischief ’ than any other thing that could have been devised; for all of them follow up the study more or less, and some so far, as to form little cabinets of their own at home. Every sensible mother, whose son has passed through a geographical class for the last two years, has expressed herself highly delighted with the effects, intellectual and moral, which the geological part of the course has produced on the boy’s domestic habits.

“ ‘ Wishing you every success in your laudable endeavours to promote the study of natural history, I am, my dear Sir, very truly yours,
“ R. J. BRYCE.”

“ With respect to the culture of natural theology among adults, it can only be generally diffused by the regular and frequent delivery of discourses upon it, and by publications explanatory of its advantages; and though it can only appeal to reason, and look to common sense and to the book of nature, ‘ that noblest of volumes, where we are ever called to wonder and to admire *, ’ for that support which it deserves, yet there

* “ Pirate.—Sir W. Scott.”

is one advantage peculiar to itself,—that the works can be exhibited, and the mechanism and other wonders of the organized structure in the animal and vegetable kingdoms, and the arrangement of strata, the forms of crystals, the remains of extinct creations, and other phenomena of the mineral world, can be made apparent to the senses, thereby giving positive evidence of the truths which it teaches. And we are not to suppose, that a previous course of training, or a particular kind of education, is necessary to enable us to understand these subjects. There is much, indeed, in the minute detail of every science which cannot either be well explained or understood in a popular discourse, but that does not affect the main object,—the communication of useful information which can be made plain to all.

“Much good might be done both for natural history and natural religion, by societies formed for the express purpose of cultivating the one in order to inculcate the other. There are very many persons who, were they aware of the great utility of these studies, in imparting a knowledge of the wisdom and other attributes of the Deity, and of enlarging the human mind, would be anxious to forward any judicious plan by which they might become more widely understood. It is, indeed, extraordinary to see what zeal is manifested, what pains are taken to gain proselytes, what sums are raised and squandered in supporting any new absurdity that starts up, pretending to be founded on miraculous claims or supernatural assistance, and yet to find that the great volume of creation is so much unknown and disregarded as it is. If a Joanna Southcote, or other insane fanatic, appear, there are thousands ready to become believers in the pretended mission; or if a Hohenlohe assume to wield the powers of Heaven, whole nations will rely on the faith of the unprincipled cheat. And can nothing be done to give men a knowledge of natural religion, which is, perhaps, the only cure for this silly and pernicious belief in wonder-workers and hot-brained or cunning knaves, who thrive by imposing on the weakness of their brethren? It is well known that a number of the clergy of the Established Church were firm believers in Joanna Southcote being the woman who was ‘clothed with the sun, and the moon under her feet, and upon her head a crown of twelve stars*’; and that one of them went so far as to offer a benefice into the hands of his bishop, if, on a certain day, the ‘holy Joanna’ did not appear with the expected Shiloh;—an excellent specimen of faith, no doubt; but I will venture to say that these gentlemen did not spend much of their time in cultivating natural science, or contemplating the Deity in his works. It is said, indeed, that some of her disciples still suppose that Joanna is in heaven

searching for the Shiloh's father ; and what a miserably superstitious state must the world still be in, when we reflect, that though this impostor died so late as 1814, yet, at one period of her career, she had, in London and its neighbourhood, above one hundred thousand converts *.

" Societies which would devise means of giving stated lectures on subjects demonstrative of the wisdom and other attributes of God, as discovered in his works, whether in the structure of the heavens, or in the history and conformation of organized nature, or of the great features of our globe, would, I am convinced, do an incalculable good. There is one recommendation of natural theology not a little powerful ; which is, that men, by attending to it, would become possessed of more and more knowledge as long as they lived. So long as a man retains his faculties, there is still something more in it to be acquired ; and a discourse on science in connection with it, though attended to but once a week, would gradually bestow upon the hearer a large fund of knowledge, which would still be increasing, and which none, I presume, will dare to say, would be a useless or unimportant acquisition. I again assert, what I am most assuredly convinced of, that the imparting a knowledge of the works of creation to mankind at large, would prove to them a most valuable gift. I would like that a lecture-room, a museum, and a library, should be attached even to every village as regularly as its church or chapel ; and that part of some set day or days should be appropriated to the demonstration and teaching of the works and wisdom of God, in the great subjects of natural theology—whether in the sublime science of astronomy, or in the leading branches of natural philosophy, or in the economy, fabrication, and history of the individuals of the animal and vegetable kingdoms ; in short, the wide and glorious field that occupies every page of Nature's stupendous volume. This would be teaching men of every creed, and every faith, a kind of knowledge which must of necessity be useful to them. Let it not be said that such is taught !—the case cannot be made out ; the people are taught no special knowledge of these things in any country upon earth.

" You will, perhaps, treat the idea of teaching matters of science to people generally, as chimerical ; but be not over-hasty. It is still too common a persuasion, that knowledge should be a monopoly, belonging solely to the learned and highly educated ; but there is a vast fund of information of the very highest value, which can be understood by persons who have had little previous tutoring either in school or university. There is a vast mass of knowledge which admits of easy explanation, and which could be comprehended by men of the most moderate educa-

* See the London Encyclopædia, *in verb.*

tion; and why is it withheld from them? Is the sun still to shine in the heavens, the planets to roll on in their orbits, the comets to shoot beyond imagination's wing into the regions of space, and the constellations to sparkle for ever on the canopy of night; and yet our brethren of the human race, a very small portion excepted, to know no more about them than merely that they are the sun and stars?

"Will it be said that the great truths of astronomy can only be made plain to the understandings of those who are profound mathematicians and philosophers? There are lengths in every science, indeed, which can only be gained by long and deep study; but although it required a Newton to unfold the mystery of the planetary motions, as guided and controlled by the law of gravitation, still these motions, and most of the sublime facts of astronomy, can be comprehended by the bulk of the people, from plain illustrations, given in plain and perspicuous language. But of this, and of nature in general, they are kept in deep ignorance. Simple truths, when simply explained, are more easily comprehended, I believe, than is commonly supposed; and I feel satisfied, that the task of teaching mankind in general, such solid and various knowledge as would tend most powerfully to advance both civilization and morality, is any thing but hopeless. Knowledge has been truly said, by Bacon, to be power; and with equal, at least, if not greater truth, it may be asserted, that when pursued with a reference to the God of all knowledge, it is virtue.

"An acquaintance with nature must always tend powerfully to suppress the puerile and degrading belief in supernatural occurrences, and in pretenders to the working of miracles. The true place to search for what is really and irresistibly demonstrative of the Deity and his ways, is in the *accomplishment*, and not the *breach*, of those laws which he has established throughout nature; and all the miracles that have ever been reported are as a drop in the ocean, compared with the infinite power that is every where discoverable in his works. Where is the miracle, let me ask, that does not sink into comparative nothingness when compared even with the motion of so small a globe as the world we live on? The earth, you are aware, moves round her axis every twenty-four hours; and being eight thousand miles in her longest diameter, the consequence is, that any point at the equator will be carried round at the rate of one thousand miles in the hour. But the orbit in which the earth moves round the sun, is known to be five hundred and eighty-four millions of miles; and as that space is described in one year, the average space gone over is nearly one million six hundred thousand miles in one day, which is sixty-six thousand six hundred miles in one hour, eleven hundred in one minute, and eighteen every second

of time. So that even while you are occupied in reading this letter, supposing that to take up the space of an hour, you will, independently of the diurnal motion, be carried on, in that brief portion of time, sixty-six thousand six hundred miles in your annual circuit round the sun. This is one of the many wonders which astronomy has disclosed of the omnipotent God in the economy of the universe ; but whether we contemplate the heavens or the earth, wonder accumulates upon wonder, and proof upon proof. There is no limit to the study of the Almighty in his works. All nature, from the north to the south, and from the east to the west, offers examples innumerable of the power and wisdom with which he works throughout the visible world before us. In the heavens, we find suns the centres of systems, and an endless series of rolling worlds ; and when we descend from the consideration of suns and systems, of stars wheeling in their orbits with a velocity quicker than thought, of worlds compared with which the globe we inhabit is in magnitude as a molehill, how delightful is it to find that on this ball, insignificant as it is in comparison with thousands of the heavenly orbs, the God of all displays himself in characters not less strong, to the inquiring mind, than in the boundless ocean of space that holds the sun and stars !

“ Let us consider an insect, or let us study the laws which direct a planet ; let us contemplate the solar system, or inquire into the history of an ant-hill or a honeycomb ; the mind, the truly valuable part of the compound called Man, recognises in the vast, as well as in the minute, and *vice versâ*, the master mind, the God, the omnipotent power—express it by what name we will—which formed and which governs the mighty whole, in all its magnitudes, in all its minima. Paley observes, in his *Natural Theology*,—a work which I can never too highly recommend to your notice,—that ‘ the works of nature want only to be contemplated. When contemplated, they have every thing in them which can astonish by their greatness : for, of the vast scale of operation through which our discoveries carry us, at one end we see an intelligent Power arranging planetary systems—fixing, for instance, the trajectory of *Saturn*, or constructing a ring of two hundred thousand miles diameter, to surround his body, and be suspended like a magnificent arch, over the heads of his inhabitants ; and, at the other, bending a hooked tooth, concerting and providing an appropriate mechanism for the clasping and reclasping of the filaments of the feather of the humming-bird. We have proof not only of both these works proceeding from an intelligent agent, but of their proceeding from the same agent : for, in the first place, we can trace an identity of plan, a connection of system, from *Saturn* to our own globe ; and when arrived upon our globe, we can, in

the second place, pursue the connection through all the organized, especially the animated, bodies which it supports. We can observe marks of a common relation, as well to one another, as to the elements of which their habitation is composed. Therefore one mind hath planned, or at least hath prescribed, a general plan for all these productions. One Being has been concerned in all."

"I hope you are now satisfied that the pursuit of natural history is one that should neither be considered as idle nor undignified; and I also hope, that you are inclined to believe, that 'if one train of thinking be more desirable than another, it is that which regards the phenomena of nature with a constant reference to a supreme intelligent Author*.' But if this be true, how desirable would it be that some means were devised to diffuse a knowledge of nature, and to promote this mode of contemplating her! We have Sunday schools for the young, and why not Sunday colleges for instructing the adult part of the population? When we recollect, that in the support of the Established Church of Great Britain and Ireland, not less, perhaps, than twelve millions Sterling are annually expended—that large voluntary contributions, amounting to some hundred thousand pounds every year, are raised for Missionary, Bible, and other societies, besides the great expenditure required for the support of teachers of independent sects; that the steeple alone of a church will sometimes cost more than would found a university,—is it not somewhat remarkable, that nothing is done to give mankind some knowledge of God, as he exhibits himself in his works? I am perfectly satisfied of two things;—that such knowledge must be useful to mankind, not only in enlarging their minds, but in greatly increasing their morality; and also that, however much natural religion may be cultivated, it can never lead to any injurious excesses of enthusiasm, nor render its cultivators bad or dangerous members of society. It never can induce any man, or body of men, to compass the life of a human being for a difference of opinion. There can be no quarrelling about what can be made obvious to all; and I presume that any one would be laughed at,—I am sure he would deserve it, at least,—who would assert that the pursuit of nature and natural religion can ever lead to cruelty, oppression, lying, burning, hanging, flogging, or flaying. No murders, you may depend upon it, ever have been, or ever will be, committed for its sake; and it never can give rise to attempts at glorifying God by acts of injustice, bloodshed, and murder.

"Now, if there be an intellectual pursuit, adapted in its very nature, its very essence, to the capacities of all mankind, and all

* Paley.

times of life, whose natural tendency is to soften and humanise the dispositions, to keep up a constant reverence for the God of all, by suggesting that Great Being in every thing cognisable by the senses, ought it to be neglected?—a pursuit which leads us to discover the all-powerful Creator, in the endless multitude of his works,—is it to be spurned from us and contemned? or should we not rather exert our best efforts, to remove the cloud that is settled so deep and wide upon it; to disperse the darkness, and open up, for the amelioration of our species, opportunities of advancing in its delightful paths to a knowledge of Nature, and, through her, of the Almighty God whose glorious work she is?

“In the observations I have all along made respecting natural history, you will recollect that I have not spoken so much in its favour as I have done, from any bigoted attachment or blind zeal for it in particular, to the exclusion of a due sense of the value of other sciences and pursuits. All knowledge that does not lead to error or immorality is useful and valuable; and without a great diversity of pursuits and inclinations, the business of mankind could not go on. Happy is he, who, in this stage of existence, can acquire the most knowledge, with the greatest degree of innocence; for, along with a good or a guilty conscience, it is the only thing we can take out of the world, and, consequently, is the most valuable thing we can find in it. At the same time, I must repeat, that natural history, being in itself of easy acquirement, to a considerable extent, and without previous training; its facts being every where triumphantly illustrative of the wisdom of the Deity; its being adapted to all ages, and admirably so to the inquiring minds of youth; its capability of being studied without interfering with other business or pursuits; and, above all, its being the mirror in which we may, every day and every hour, see in all situations the reflected power, wisdom, and goodness of nature’s God; it deserves to be more generally valued, and more generally understood, than it is.

“To conclude: if you have now paid that attention to the letters which I have written, and if they have made such an impression as I could wish, you will not abandon the path in which I have attempted to lead you. Depend upon it, you will always find the highest satisfaction in the pursuit of natural history, especially when in connection with natural religion. You are not, in it, catching at objects in the dark, stumbling into a pit here, and following a will-o’-the-wisp there; there are no false lights here to mislead, no traps for the unwary, no impositions for the weak, and no temptations for the wicked; and, in pursuing it, your life may be one act of rational devotion, and, so far as pleasing occupation can avail, of happiness

Study the Almighty in every thing you can, and get at the truth of every thing as far as you can, but have nothing to do with disputes and controversies respecting things that are above human comprehension ; for a man may fight about these for his whole life, and, after all, leave the world possessed of very little wisdom, little honour, and less virtue. Search into the works of God with a resolution to find the truth as far as possible, but legitimate nothing as truth, which you cannot, on a full and fair investigation, unquestionably and honestly acknowledge to yourself to be such. Consider truth as the gem above all price, as the great reward of your endeavours after knowledge, as your protection from the indulgence of vain and arrogant conceits, and from the equal chance of having your mind crushed to imbecility, by childish, absurd, and superstitious fears. Think and study, as every man ought to do, for yourself ; but let all your conclusions be satisfactory, if possible : if you see reason for uncertainty in any opinion or statement, neither reject nor embrace such, but keep it *in retentis*, till future observation or reflection shall bring the light of truth to bear sufficiently upon it ; so that you can fairly say to yourself, ‘ It is true, and I believe it ;’ or, ‘ It is false, and I reject it.’ With this advice, then, I take leave of you for the present : following the practice I have all along inculcated, that of viewing the works of God in reference to himself, you must pursue the study of natural history, with the highest gratification, live as long as you may ; and when your final hour arrives, you will have given proof, I doubt not, to your friends, that the remark of the venerable Bewick, ‘ a good naturalist cannot be a bad man,’ has been fully verified in your past life ; and I feel pretty certain that you will, at the approach of that natural termination to your present existence, not be alarmed that death shall put an end to your study of the works of that God, who gave you such opportunities of meditating on Him and them during your mortal being here.—Farewell.”

ARTICLE X.

DR MICHAEL RYAN *VERSUS* PHRENOLOGY.

DR RYAN, in his *Manual of Medical Jurisprudence*, is pleased to attack Phrenology in the following terms : “ The doctrine of the materiality and mortality of the soul, which is that of Materialism and Phrenology, should for ever be exploded as totally false, and unworthy of all regard, as subversive of the fundamental principles of all religions, as introducing civil anarchy into the political economy of legislation, as substituting disorder for harmony, despair for hope, and eternal darkness

for everlasting light. * * * Such are the consequences naturally resulting from the principles laid down in phrenological writings. * * * Of what benefit to humanity would be the establishment of Phrenology? We answer, none; but, on the contrary, the greatest injury. If any man be so unhappy as to work himself into the conviction that his soul is a function or a secretion of the brain, and of course must perish with it, he would still do well to conceal his horrid belief with more secrecy than the Druids concealed their mysteries. * * * Whence this eagerness to propagate systems, the tendency whereof is to slacken the reins that curb the irregularity of our desires, and restrain the impetuosity of our passions?"

The *Lancet* of 25th October furnishes us with the following commentary upon this passage: "It is hard to treat of such consummate nonsense in a serious vein. How much longer will men, departing from the calm precepts of rationality, abandon their minds to childish prejudices, and their pens to the propagation of the most atrocious calumnies against those from whom they differ in opinion? When Harvey discovered the circulation of the blood, the cry of 'Atheist' was hounded after his footsteps; when Galileo deciphered the language of the stars—when Martin Luther opened the book of reformation—their fate was yet worse; there neither were tongues nor pens wanting to misconstrue the calculations of Newton into an overt denegation of the existence of a Supreme Being; and now, when Gall, and Spurzheim, and Combe, and Elliotson,—men whose lives were and are beyond reproach, as pure at least as those of the medical iconoclasts who hurl their declamatory missiles at their heads,—when these men come forward, and in the plenitude of learning, philanthropy, and true religion, propound the firm data of a new, and, in its broad facts, most useful science, up springs Dr Ryan, and, despising arguments and facts beyond contradiction, utters the silly howl of Atheism against them. Dr Ryan should know the vulgarity, to say the least of it, of this petty resort of all-confounding dogmatists. Whenever an ill-informed and shallow writer feels the ground of reason and truth sinking beneath his feet, he tries to avert his fall by catching hold of and dragging down the character of his opponent. Nor is the artifice without a transient triumph. The crafty disputant knows how readily mankind are prejudiced by a name, and in nearly the same spirit and expectation that induce a burglar to accuse the watch-dog of hydrophobia, he fixes the libel of "Atheism" on the philosopher, whom the world, for a season, then cuts off. Truth, however, is certain, though tardy, in its progress; and the phrenologists have at least this consolation, that idle and noisy declamation never yet made a rational man the enemy of correct, or the proselyte of erroneous, opinions."

We thank the *Lancet* for this spirited defence; but we assure Dr Ryan, for his gratification, that his charges of Materialism and Atheism do us no harm whatever. Like all our enemies, he has not taken the pains to know what *are* our doctrines. Most assuredly the *materiality* and *mortality* of the soul is one nowhere to be found in the phrenological works *. These bear in every page irrefragable evidence of our being animated by a pure and earnest zeal for religion and morality; and we humbly hope that we do more to promote the cause of both in one number of our Journal, than Dr Ryan will accomplish in a lifetime by writing such trashy sentences as these. Mr Hume said in Parliament, that if the friends of religion who are fond of persecution will only keep their *hands* off him, he will submit with patience and resignation to the full effects of their pens and their tongues; and, from our own experience of the utter harmlessness of abuse, philosophical, literary, scientific, and religious, we heartily approve of Mr Hume's treaty with bigotry and intolerance.

ARTICLE XI.

PRACTICAL UTILITY OF PHRENOLOGY.

TO THE EDITOR OF THE EXAMINER.

SIR,

IN your paper of 30th October, you gave a review of the 29th Number of our Journal. We return our best acknowledgments for the handsome terms in which you spoke of it; but we observe that, while you do justice to the conclusions at which we arrive, you experience much difficulty in discovering in what manner Phrenology is calculated either to retard or promote their accomplishment. We are not surprised at this state of mind, but consider the opportunity a favourable one for offering a few remarks on the manner in which Phrenology will accelerate the improvement of the human race.

We might ask what you understand by Phrenology? It is obvious that you have not studied the subject; and, in consequence, your notions of it are likely to be about as complete and accurate as those of a sensible gentleman would be concerning the science of chemistry, who knew no more of it than the explanation given in the dictionary of the meaning of the name. We make this remark, because the study of Phrenology is impeded when men of enlarged minds speak of it without knowing it, and without being aware that they do not know it. They have some ideas in their minds, but they do not connect them with the word; and,

* We refer the Doctor to the *Lancet* for our views on Materialism.

for our views on Materialism.

when they use the term Phrenology, they mean these ideas ; but phrenologists lament that these notions are in general so defective and incorrect. It may be quite true that the particular notions which A or B attaches to the word Phrenology, may be of no value to society at large ; but it may not be equally true that the facts in nature, the principles in physiology, and the inductions founded on these, which are recorded in the institutional works on Phrenology, and which really constitute the science, are equally worthless. A sensible man, in saying that he does not see the use of Phrenology, ought to ask himself whether, by that word, he means a few vague conceptions existing in his own mind, and picked up at random, or the contents of the best phrenological works. We mean no disrespect to you by these remarks ; and intend only to illustrate a general proposition.

Phrenology does not pretend to the invention of any new element in human nature ; it merely gives a scientific basis to some truths which formerly existed in an empirical form, and brings to light many others of great practical importance, which were previously unknown. The notion is perfectly just, that many of the views and practices which we have developed in this Journal for the improvement of human beings, might be supported on the generally known principles of human nature, because Phrenology is a scientific exposition of these principles ; but the advantages which we claim may be thus elucidated : An old woman, by the empirical application of natural substances, could bleach, and dye, and spin, and weave, before the inventions of mechanical philosophy, and the discoveries of scientific chemistry took place ; but with far less productiveness in proportion to the labour bestowed, and with inferior success as to the quality of the workmanship. In like manner, old women could teach children the alphabet, and fox-hunting squires could make laws, and pious persons could preach about the means of securing eternal felicity in heaven, each using the stock of notions about human nature which happened to constitute the mental furniture of his or her mind ; but we deny that the value of the education bestowed, and of the laws enacted, and of the principles of piety inculcated, would be equal to what they would have been, if these several individuals had possessed a scientific and practical view of the physiology of the brain and the philosophy of the mind, which are to be found in the phrenological works. We shall endeavour to render this proposition more obvious by a few illustrations.

1st, Phrenology shews that the power and direction of thinking and of feeling in each individual is modified by the size, quality, and combination of the cerebral organs occurring in his particular case ; and important practical consequences follow from this prin-

ciple. For example, No. 29. of this Journal was handed into the offices of the Literary Gazette and Examiner, and read by the respective editors of these works, both personally unknown to, and entirely unconnected with us; but the effects produced on them by the self same words and sentences were very different. On the editor of the Gazette the work appears to have produced the following effects: 1st, To prompt him to pen a high panegyric on himself; 2dly, To fall into a rage with us, and write scurrilous abuse against us; 3dly, To commit a gross misrepresentation; and 4thly, To copy into his own pages the full narrative of certain cruel experiments, performed in Paris, which he had denounced us as atrocious monsters for copying and translating from a French journal. The whole moral and intellectual disquisitions of our publication failed to attract his notice; and he never touched on any point connected with the great interests of the human race, although several such were brought before him in our work. His views were all individual and personal; they regarded himself, us, and the demerits of the experimenter. On you, the editor of the Examiner, the effects appear to have been different. You seem not to have thought of yourself at all. You thought of us, not in rage, but with respect and kindness; and, while you could not see the merits of Phrenology, you did justice to the fruits which it produced. The grand distinction between you and the editor of the Literary Gazette was, that there was nothing individual in your criticism; the points that attracted your notice were those which bore the closest and deepest relationship to the general welfare of mankind. You appreciated the ideas which we had thrown out, and perceived their consequences in relation to that great end. Now, Phrenology proves that one fundamental cause of the different impressions made on different minds by the same object, is the different degrees in which they possess the several mental organs. The manifestations of the editor of the Gazette denote a brain in which the organs related to individual objects and personal interests predominate; and your manifestations indicate a brain in which the organs of reflection and of the moral affections are more largely developed, in proportion to the organs of individual perceptions and personal feelings. While this fact is unknown, each individual assumes that his particular mode of thinking and feeling is in accordance with the best standard of human nature, because he knows no other than that furnished by his own mind. If he desired to bring over another person to the same views, he would use the arguments and illustrations which would weigh most forcibly with himself; but, owing to the difference of brain, these might feebly impress him to whom they were addressed. The advantages of Phrenology, in such a case, would be

First, It would make known his own deficiencies to the

individual in whom the inferior combination occurred ; render him aware of the existence of a higher standard than his own mind ; and induce him to avoid aberrations into the regions of his own weakness. Secondly, By giving to the public a clear and intelligible standard by which to estimate mental capacity, it would prevent them from being led away by beings who ought themselves to be directed. You conceive that many of our observations on human improvement are demonstrable independently of Phrenology ; but we assure you that a particular development of the moral and intellectual organs is indispensable to the perception of the facts on which such a demonstration must be founded ; so much so, that if the upper part of the forehead and the coronal region of the brain be deficient, the individual may be perfectly sane, and may possess much acuteness, and many excellent qualities, and yet be mentally blind to the existence of the facts, and utterly incapable of comprehending the induction on which the demonstration alluded to must rest. There are many individuals constituted in this manner, who are by nature utter sceptics as to the possibility of rendering mankind moral and intelligent by natural means ; and they form a grand mass of resistance to the march of improvement, which the higher minds require to push or drag along, before the social body can advance a step. Individual interests, superstition, prejudices, and ignorance, present great impediments to moral improvement ; but all these are secondary when compared with the effects of a deficient development of the moral and intellectual organs. The individual is then passionately prone to animal gratification, and there is wanting in his nature a fulcrum on which to fix the moral lever of direction and restraint.

2dly, Phrenology not only brings this fact before the eyes and the understanding as an institution of nature, and directs us to place such individuals in situations corresponding to their organization, but it furnishes valuable hints for diminishing the number and extent of deficient brains in subsequent generations. Form and quality of brain descend like features and general bodily constitution ; but powerful modifying effects result from the condition of the parents at particular times, and from training the young according to the laws of physiology. We have never seen inert and lymphatic children descend from a father and mother both possessing the nervous and sanguine temperaments : We do not know an instance of children prone to the pleasures of the table, whose parents were habitually temperate, while we could cite opposite examples. We could furnish cases in which mental depression, or excitement of violent passions in the parents, was followed by similar dispositions, as constitutional qualities, in offspring dating from that condition. In short, it is impossible to become acquainted with, and attend to,

temperament and form of brain, and to the mental condition of parents, without having the conclusion forced upon the understanding, that all radical improvement of the dispositions and capacities of the race must spring from physiological causes. These causes operate in harmony with moral and religious principles ; in other words, a man cannot obey the laws of physiology without at the same time observing the laws of morality and religion ; hence there is no atheism or irreligion in this announcement ; but, on the contrary, the moral government of the world is supported by these laws. The subject is more fully elucidated in Combe's Constitution of Man, to which we refer. We humbly maintain, that no principles recognised in the current philosophy of Europe give the same importance to the laws of physiology, as means of improving the mental qualities of man, which is presented by Phrenology ; and that, if this science be founded in nature, it is of immense value to mankind.

3dly, Phrenology exhibits the elementary qualities of mind as positive entities, connected with, and influenced by, perceptible organs ; it enables us to point out the proper sphere of activity, or the uses and abuses of each, and the consequences of their due exercise, in a manner unattainable by means of the metaphysical philosophy of mind. After studying the mental powers in connexion with organs, it becomes possible for individuals to form a conception of a standard of human nature superior to themselves, and to compare themselves with it, to discover the points in which they are deficient, and those in which they excel, and to modify their practical conduct by this knowledge. It enables them to comprehend the characters and powers of other men in a manner which they could never reach without this key to their qualities. It is a powerful engine for destroying superstition ; because, when the faculties and their mode of action become familiarly known, it is easy to trace many impressions, doctrines, and ideas, which have done unspeakable injury to mankind, to excessive and irregular action of particular organs, occasioned by natural causes, which many persons have mistaken for supernatural communications. We refer to false prophets, and fanatical professors of all ages. A practical phrenologist, who knows the functions of the organs of Wonder, and has seen or read the effects of their exaltation, will not readily become a proselyte to the Reverend Edward Irving's miracles ; nor will one who knows that there is an organ of Language, whose function is to invent and learn artificial signs, and is aware of the effect of excitement on all the organs, be surprised at articulate sounds, destitute of all meaning, being uttered by certain individuals, believed by the ignorant to be inspired.

4thly, When a man of ordinary capacity has become fami-

liarily acquainted with the mental organs and their functions, he arrives at an irresistible conviction of the existence of moral and intellectual qualities of a high order in the human race, which require only to be developed and directed, to lead to results far superior to any exhibited during past ages when these qualities and their relations have been scientifically unknown. He thereby gains a confidence in the stability of religion, morality, and social order, which renders his mind tranquil, and frees it from a thousand vague apprehensions about the possible triumph of vice.

5thly, When the mental organs and their functions are compared with the objects of external nature, the true position on earth of man, as a moral and intellectual being, is discoverable; and it becomes practicable to form a philosophical judgment concerning the adaptation of his institutions and pursuits to his nature. With all deference to philosophers of the old school, we maintain that it is impossible to do this while the elements of mind, and the influence of organization on them, are unknown. In a century hence the didactic literature, religious opinions, political and industrial institutions of the present age, will appear in a state of Gothic aberration from the dictates of reason, when enlightened by a correct knowledge of human nature.

Our observations are not half exhausted; but we fear that we have already extended them too far for the degree of development which we have been able to give them on this occasion. Our past pages are full of detailed elucidations of many of the points now touched on, and we refer you to them, as also to the works of Drs Gall and Spurzheim, of Dr Andrew Combe, and Mr George Combe, for further information. And remain, with respect, Sir, your most obedient servants,

THE CONDUCTORS OF THE PHRENOLOGICAL JOURNAL.

ARTICLE XII.

CASES OF SIMULTANEOUS CHANGE OF CHARACTER AND FORM OF HEAD.

MR DEVILLE, as is generally known, has collected several series of casts of the heads of the same individuals, taken at different periods of their lives; and he states that his observations have gone to prove that the form of the head is capable of being changed by education and alteration of circumstances; and that the change takes place in the situation of those organs of which the sphere of activity is increased or diminished. The subject

is important, and one which has not received all the attention which it deserves; and it is chiefly with the view of exciting phrenologists to make observations whenever opportunities may occur, that we subjoin a brief account of two cases, contained in a letter which we received last year from Mr Deville.

About four and a half years ago, Mr Deville took a cast of the head of a gentleman, then thirty-two years old, and a second cast when he was at the age of thirty-six. For three or four years previously to taking the first cast, this gentleman was very fond of hoarding money, and his desire of accumulating had rendered him so penurious and unhappy, that, though his property was considerable, his friends were afraid of his becoming insane from the sheer dread of being reduced to beggary. They endeavoured to reason him out of this feeling, and sent him abroad with a gentleman, by whose attention and kindness he completely overcame the propensity, and made some progress in the study of the classics and of music. Mr Deville states, that, upon measuring and comparing the two casts, he found the head to have considerably increased in size at the situation of the organs of Benevolence, Ideality, and the Reflecting Faculties. "I have," he adds, "two well authenticated casts of a great artist, whose life is well known. The first is a mask taken in 1792, when he was about forty-five years of age; the other a cast of his head taken after death, in 1816. Now, it is well known that he became a hoarder and groveller after money during the last fifteen or twenty years of his life; nay, he became miserable from fear of coming to want, though he possessed extensive property, besides his pictures, which were of great value. Now, upon applying the callipers at Acquisitiveness, the second cast is found to be nearly four-eighths of an inch broader than that taken in 1792, while at the same time its height has diminished; it has become flatter at Benevolence and wider at Acquisitiveness. To some this may appear extraordinary, and had I known only a single instance I should have been silent; but as I have now between fifty and sixty cases of alteration of the form of the skull, accompanied by change of character, the subject assumes an important character, and calls for more extensive investigation."

We state these cases on the authority of Mr Deville, for the purpose of calling attention to the subject; but we consider it to be attended with much difficulty. Analogy warrants us in believing, that while growth is still in progress, regular exercise of the mental organs will favour their development; and also that long disuse, at any period of life, will be accompanied by loss of size and of vigour; but we do not know that analogy warrants us in expecting that, after full maturity is attained,

exercise will not only strengthen mental organs, but cause them to enlarge their size by means of new and additional growth. Nature appears to set limits to the size of organs both of mind and body, which no human means yet known can enlarge: a man naturally slender in bones and muscles may by exercise bring these parts into the best condition which their constitution will admit of; but we do not know any good authority for believing that he may render himself powerful and athletic by his own exertions. In like manner, the law of nature seems to be that a young lady, while still growing, may, by exercising the organs of Time and Tune, for example, favour their development, and carry them to the highest point of perfection in size and activity, which their inherent constitution will permit; but that she cannot cause them to increase indefinitely, otherwise we should see no examples of perseverance failing in its reward, which it unfortunately does when exercised in opposition to nature. Experience, however, alone can determine.

ARTICLE XIII.

EDUCATION IN GERMANY.

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

SIR,

I WAS glad to perceive from an article in your last Number, on Dr Mayo's school at Cheam, in Surrey, that there is now some prospect of the serious introduction into Britain of a system of education, having something more than mere words for its object. Perhaps you are not aware that the elementary schools in Germany are in a great measure founded on the same enlightened principles which are advocated by Pestalozzi, Dr Mayo, Mr Wilderspin, and yourself; and as I had an opportunity, during a residence of two years at Hesse-Cassel and Gottingen, of obtaining a familiar acquaintance with the German method of teaching, a few particulars on the subject may probably be acceptable to your readers.

In Germany, as in England, boarding-schools are the principal seminaries of education, day-schools like those which we have in Edinburgh being seldom if ever to be met with. These boarding-schools are attended not only by the boys who reside with the teacher, but also by what are called day-boarders; and masters for drawing, dancing, music, and other ornamental and useful accomplishments, teach at stated hours, as in similar establishments in this country. There are in Germany no such institutions as our High School, where almost nothing but Latin

is taught; and indeed no one thinks of learning Latin, except those who are intended for the learned professions, and absolutely require a knowledge of it. Thus boys in general, instead of spending five or six years in a state of misery, are enabled to acquire an extensive stock of useful and practical information.

In German boarding-schools, natural history is a prominent object of pursuit, and the boys are instructed in the outlines of zoology, ornithology, entomology, and mineralogy. This, I believe, is a branch of education never taught in seminaries of the same description in Britain; but it is devoured by the learners on the Continent with the utmost avidity. There the teacher is not an object of fear, but the friend of his pupils. He takes them, about once a fortnight, to visit some manufactory in the neighbourhood, where they are generally received with kindness, and are conveyed through the whole building by the owners, who seem to have pleasure in pointing out the uses of the various parts of the machinery, and in explaining to their juvenile visitors the different operations which are carried on. Suppose, for example, that an expedition is undertaken to a paper-mill; the boys begin their scrutiny by inspecting the rags in the condition in which they are first brought in; then they are made to remark the processes of cutting them, of forming the paste, of sizing the paper, &c., with the machinery by which all this is executed. On their return, they are required to write out an account of the manufactory, of the operations performed in it, and of the manufactured article.

During the summer months, pedestrian excursions are undertaken, extending to a period of perhaps two, three, or four weeks. Every thing worthy of attention is pointed out to the boys as they go along; and deviations are made on all sides, for the purpose of inspecting every manufactory, old castle, and other remarkable object in the neighbourhood. Minerals, plants, and insects are collected as they proceed, and thus they early begin to appreciate and enjoy the beauties of external nature. If they happen to be travelling in the mountainous districts of the Harz, they descend into the mines, and see the methods of excavating the ore, working the shafts, and ventilating and draining the mine. Ascending again to the surface, they become acquainted with the machinery by which the minerals are brought up, the processes of separating the ore from the sulphur and the silver from the lead, and the mode in which the former metal is coined into money.

Having become familiar with these operations, the boys next, perhaps, visit the iron-works, and here a new scene of gratification is opened up to their faculties. The furnaces, the principles of the different
 ws, the method of casting

the iron and forming the moulds,—every thing, in short, is presented to their senses, and fully expounded to them. In like manner they are taken to the salt-works, and manufactories of porcelain, glass, acids, alkalies, and other chemical bodies, with which that part of Germany abounds. If any mineral springs be in the neighbourhood, these are visited, and the nature and properties of the water explained. In short, no opportunity is neglected, by which additions to their knowledge may be made. In this way, I may say without exaggeration, they acquire, in the course of a single forenoon, a greater amount of useful, practical, and entertaining knowledge, than they could obtain in six months at a grammar school. For my own part, at least, I learned more in one year at Cassel, than during the five preceding which were spent in Edinburgh. This knowledge, too, is of a kind that remains indelibly written on the memory, and that is often recalled, in after life, with pleasure and satisfaction. How different were my feelings, when thus employed, from those which tormented me in that place of misery, the High School of Edinburgh !*

These journeys not only have a beneficial effect on the mind, but also conduce, in no small degree, to the growth and consolidation of the body. They are performed by short and easy stages, so as not to occasion fatigue.

On their return home, the boys write an account of their travels, in which they describe the nature of the country through which they have passed, and its various productions, minerals, and manufactures. This is corrected and improved by the teacher. The minerals and plants which have been collected, serve at school to illustrate the lessons. The boys also go through a regular course of study, and receive lessons on religion, geography, French, and the elements of geometry. They are taught also the elements of astronomy, not merely the abstract particulars generally given in courses of geography in this country, relative to the moon's distance, the diameter and period of revolution of the earth, and the like, but also the relative positions of the principal constellations. The figures of cubes, cones, octagons, pyramids, and other geometrical figures, are impressed upon the minds of the junior boys, by pieces of wood cut into the proper shapes. Latin is taught to those who particularly desire it. Poles are erected in the garden for gym-

* Our correspondent's language is strong, but as we know it to be nothing more than the expression of honest and heartfelt indignation, we have allowed it to remain unmodified. We ourselves can never forget the *tedium vite* which attended us, during the lingering years in which we made a strenuous but unsuccessful attempt to overcome the difficulties of Latin Syntax at the High School of Edinburgh. Often did we envy the condition of boys who laboured in the fields for a scanty subsistence, but whose minds were free from the intolerable and spirit-breaking *incubus* of a Latin grammar.

nastics, and the boys receive every encouragement to take muscular exercise.

Now, this method of education seems to me,—indeed I know experimentally that it *is*,—so vastly superior to that which is in vogue in Edinburgh, that I can never cease to wonder that the barbarisms of the dark ages should still be allowed to exert their influence among us. In Germany, the boys enter the schools which I have described, at the age of eight or nine, and leave them when about fourteen or fifteen, at which period those intended for the learned professions enter the lyceums, preparatory to enrolling their names at the universities. Now, whether is it more rational for a boy, at that period of life, to consume his valuable time in the dreary halls of the High School, in acquiring scarcely one useful idea, or to employ it in the pursuit of substantial knowledge? For my own part, I shall always look back on the time which I spent in obtaining a superficial acquaintance with the Latin tongue as a hideous blank in my existence.

But why do not such schools exist in England? Is it from want of encouragement? This can hardly be the cause. It is stated in the article in your last Number, to which I have alluded, that Dr Mayo has a great superfluity of applications for admittance into his establishment, and I know that there are often on the lists in Germany the names of English boys, who must, in like manner, patiently await their turn. The cause, I suspect, is to be found in the scarcity of teachers, possessing knowledge sufficient to render them capable of conducting an institution established on the principles of reason and common sense. This is not to be wondered at, considering how few are educated for the profession, and that every person who has been reduced to poverty by misfortune or indiscretion, comes to swell the ranks of the *guides and preceptors of youth*.

In Holland no one is allowed to teach without having served a regular apprenticeship for several years, and undergone two or three severe examinations. In France a *projet* is at this moment under consideration, for the establishment of seminaries for the instruction of schoolmasters in the duties of their office. In Britain, however, where no one can practise physic without having his qualifications closely scrutinized, every body may take upon him to teach. A ploughman in the neighbourhood of Edinburgh was not long ago dismissed by his master for misconduct, and straightway he commenced business as a teacher, and enlightened the rising generation for a fee of one penny per week. I know this to be a *fact*, and similar cases are not of unfrequent occurrence. Is the soul, then, of less value than the body? The superiority of the Germans to the Scotch in the knowledge of nature, is well known, and is to be ascribed

chiefly to their improved method of instruction. It is consoling, however, to every well-wisher of humanity to know, that the schoolmaster is truly beginning to stalk abroad in our benighted though self-satisfied land, and that the present state of things cannot now endure for many generations.—I am, &c.

J. C.

ARTICLE XIV.

TREATISE ON HUMAN AND COMPARATIVE PHRENOLOGY.

By J^N. VIMONT, M. D. of the Faculty of Paris, Honorary Member of the Phrenological Societies of London and Paris. Baillière, Paris and London.

ON page 314 of the present Number, we have inserted a brief notice of Dr Vimont's history as a phrenologist, to which the reader is referred. Since that article was put to press we have received the first number of the work of which the title is prefixed. It is published in French and English. When completed, it will extend to two quarto volumes, "accompanied by a splendid Atlas in folio, consisting of 120 plates, and containing more than 300 well executed subjects on human and comparative anatomy." Each number will contain six plates, drawn on China-paper, and will cost 14 francs in France, and 15s. in England. Twenty numbers, of which one will appear on the first of every month, will complete the publication. The first volume of letter-press will be delivered with the tenth number of the plates, and the second at the close of the publication. The four first numbers are finished.

The figures are lithographed, and are executed with great beauty and exactness. The work is well worthy of the attention of every student of natural history; it would even form an object of attraction to collectors of fine plates as works of art. We are informed that "it is by comparative anatomy that the author of this work has made immense strides towards the knowledge of the psychological faculties of men and animals. It is generally known now that anatomy is necessary for those who wish to study the faculties of man; all the utility of the study of comparative anatomy is not yet perhaps sufficiently known. However, all is connected in nature; if animals form a long chain of which man occupies the first link, will it not be useful, in order to know him perfectly well, to examine, at the same time, the other species?"

The Prospectus states that Dr Gall's system "had need of being confirmed by new experiments. This is what has been done with great success by Dr Vimont. This learned man has done

more: he has generalized this system in making its application to vertebrated animals; and the examinations, repeated upon every species, have only confirmed and developed the discoveries relative to man." If the writer of this passage, which forms part of the prospectus, means to say that Dr Gall did not succeed in unfolding his discovery of the physiology of the brain to such an extent as to give confidence in his system, until it was confirmed by new experiments made by Dr Vimont, we dissent from such an assertion. We believe that Dr Vimont has made a valuable contribution to the science of Phrenology, and we sincerely hope that his labours will be encouraged and duly rewarded; but we dislike every attempt to extend his fame by depreciating the merits of Drs Gall and Spurzheim, to which we observe some tendency in the prospectus. These able men, great as their exertions have been, could not do all; and there is a large and fertile field open to Dr Vimont, which we believe he has assiduously and successfully cultivated. Let this honour suffice for him, without disparaging his great predecessors.

ARTICLE XV.

CASES BY MR J. L. LEVISON OF LONDON*.

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

SIR,

WITH all the declamation of would-be philosophers against Phrenology, it is curious to notice the frequent blindness of medical men who are without its aid, in the treatment of nervous diseases, and the great professional advantages which others possess, whose nosological arrangement of cerebral affections is based on a knowledge of the noble science so much scoffed at. Mrs ———, a lady of a nervo-sanguineous temperament, had for some time a violent attack of *waking visions*, that is, she was continually annoyed by various spectres, some fitting before her, others staring wildly in her face, while some would occasionally grin over her shoulder. This produced a very unpleasant excitement, and might have terminated in mental alienation. Her medical attendant (no phrenologist), after treating her for some time without any benefit, sent her to London to have the advice of one of the *great men*; but she

* This letter was inadvertently omitted in our last Number. We shall be glad to hear from Mr Levison respecting the casts to which he alludes.

returned without any mitigation of the disease. Fortunately she was recommended to my esteemed friend Robert Craden, Esq. of Hull, who, besides being a skilful surgeon and able anatomist, possesses that *rare knowledge, an acquaintance with the true anatomy and physiology of the brain*; or, in other words, he is a phrenologist! and the sequel proved the sound professional advantage this knowledge gave him. The case was put under his care, and as he knew it to be a derangement of the perceptive faculties, his treatment was local, and a cure was effected.

The second case which I shall detail, is one of an affection of *Combativeness*, under the care of my very esteemed and scientific friend Richard Casson, Esq. surgeon of Hull, at his establishment for the insane.

Mrs A——, of a nervo-lymphatic temperament, with an excellent moral development, became insane under the following circumstances. Her husband was a sailor, and was wrecked at sea. Her *Adhesiveness* and *Philoprogenitiveness* are both large; and after this event, she brooded over it with all the energy that a strong attachment, lacerated by such a painful circumstance, naturally induced, but she seemed to concentrate all her affection in her only child, and for some time her melancholy could be pacified only by the presence of her daughter. This state continued for some months, but the havoc was going on—the shock to *Adhesiveness* was too great, and she ultimately lost her moral liberty. The manner in which the disease first manifested itself is strikingly corroborative of our views, whilst it must be inexplicable to the anti-phrenologist. She became extremely pugnacious, and exercised her *Combativeness* even upon the dear child she had so recently doated upon;—so slight are the shades between health and disease! To those acquainted with the true physiology of the brain, the case is replete with instruction,—*the convolutions of Adhesiveness are connected with those of Philoprogenitiveness, and laterally with the convolutions of Combativeness*. The latter fact explains why offended love excites hatred or anger. In Mrs A——'s case there was nothing of guess-work—nothing fanciful; neither did it require the aid of the imagination, for during her most violent paroxysms she complained of pain over the outer and lateral portions of the posterior lobes. My friend treated her locally, and attended to her general health. She was conscious of her own affection, and sometimes requested to be confined, for, during an *exacerbation*, if she could not beat others, she used to endeavour to beat herself, and break every thing within her reach. It was a decided case of diseased *Combativeness*, although the organ of *Destructiveness* also was somewhat implicated in the unhealthy excitement. I may add that a cure was made. I cannot help re-

marking, that among animals we may observe, that when Philoprogenitiveness or Adhesiveness is pained, it rouses Combateness; and the latter feeling continues more or less time under excitement, in proportion to the strength of the attachment. The male swan marches to and fro during the sitting of the female, and if any one approaches the nest, he darts at him with an astonishing fury, and his *pugnacity* is really frightful *if his mate is in danger*. I have observed a similar excitement of Combateness in the goose, when the offspring have been approached. Even tame and harmless sheep evince something like a *savage courage* if their young are attacked.

Having some paper to spare, I shall finish the communication with an interesting fact concerning the organ of *Imitation*, which is the more valuable in a philosophical point of view, as it demonstrates *synthetically*, that the remarks on the cerebral part, we call Imitation, are not fanciful. One day going into the shop of a Mr Meyer, a Polish furrier, and a very intelligent man, he particularly requested me to examine the head of his errand boy, saying, "I believe in Phrenology, *although not acquainted with it practically*, but there is a case your explanation of which will put its truth in my mind beyond the shadow of a doubt, *as I am sure you never saw the boy before, and therefore cannot know any thing about him*." The lad made his appearance, and the group of intelligent foreigners looked on with deep interest as I passed my hand over the boy's head. His intellectual faculties were *mediocre*, and the moral sentiments above the average: Benevolence stood like an *ancient tumulus*, having a deep ravine on each of its sides. With this information before me, I did not hesitate to state my opinion thus briefly, "He does not lack intelligence, and he is very willing to oblige, and do what you wish him to do, *but he does not know how to go about it*." The latter remark, I thought myself authorised to state by the deficient Imitation*. There was a simultaneous German exclamation from the party, "Wonderlich! Gott's wonder! Och Gott wie var ist das!" &c. But, after a short pause, Mr Meyer came and shook me by the hand, declaring that my remarks were "God's truth;" by which he meant that Phrenology must be founded in nature. If I can get a cast of the boy's head I shall send it for the Society; and by the next opportunity will send a list of some highly interesting casts I have lately collected, with the particulars.

I must now conclude, with warmest wishes for the extensive circulation of the truths of the science, through the medium of your valuable publication, because I feel, that in Phrenology

* We would have said by the *mediocre* intellect. — ~~Ed.~~

there is that which will place happiness and moral good within the reach of all, and make the earth, instead of a scene of vice and bloodshed, comparatively a terrestrial Paradise. I am, Sir, yours, &c.

J. L. LEVISON.

62 GOWER STREET, BEDFORD SQUARE, LONDON.

NOTICES.

TO OUR SUBSCRIBERS.—In the end of *August*, one of our subscribers in the centre of England wrote to us as follows:—"Is it not a very singular thing that I cannot procure my copy of the *Phrenological Journal* for *June*? My bookseller employs Longman; and, up to this hour, the answer regarding the *Journal* is, "Not out," "None in town!" How is this to be explained?" Having received repeated complaints of the same kind from various other quarters, we have been at some pains to investigate the cause of this obstruction of our circulation, and shall now state the result. Country booksellers, we are told, do not transmit to the publishers in London and Edinburgh the names of their subscribers, and give standing orders for *Journals* to them, but write specially for a certain number of magazines each month, and of reviews each quarter, and distribute them to their customers themselves. The London and Edinburgh publishers do not know the names of the subscribers. To secure regular delivery, country booksellers should give their orders to the publishers before 25th November for the *Journal* to be published on 1st December, and before 25th February, May, and August respectively, for the *Journals* to be published on 1st March, 1st June, and 1st September. The accounts of our publishers shew, that at least one hundred copies are not ordered till the month *after publication*; and this is the source of much disappointment to subscribers, of annoyance to the publishers, and vexation to us. From this explanation, our readers will perceive that their own booksellers are the proper persons to apply to in case of irregular delivery. The *Journal* is received regularly in London a week before the publishing days, so that no apology of "not out" ought to be admitted. We are happy to announce that our circulation continues to increase; and, as a proof of the permanent value of the *Journal*, we may mention that, during last year, a considerable amount of the old Numbers was purchased by the public at full price.

Dr SPURZHEIM is preparing to lecture in Paris.

On 26th July 1831, the Phrenological Society of Paris elected Mr George Combe and Dr Andrew Combe honorary members of that society.

The Phrenological Society held their first meeting for the season at Edinburgh, on Thursday 24th November.

The Museum of the Phrenological Society has been removed into two rooms adjoining the Clyde Street Hall. The skulls and casts have been neatly arranged on open shelves, and a full descriptive catalogue prepared by the keeper of the museum.

The London Phrenological Society held their first meeting on Monday 7th November.

We hear that Dr Monro is about to publish Sir William Hamilton's long ~~review of Facts and Fictions~~ "Facts and Fictions," in the form of Notes to his work on the ~~same~~ "Monro himself will enter the lists as a decided opponent expect, in our next Number, to be able to give our

readers the benefit of the new light which these gentlemen may throw on the functions of the brain. Both are Professors in the University of Edinburgh. We refer them to our first article, as shewing them how the wind blows in Paris among men who are equally distinguished with themselves for talent and reputation. Sir William Hamilton will report cruel experiments performed on hens and rabbits. This will afford the Editor of the Literary Gazette and correspondent of the Times an opportunity of shewing their impartiality. Will they abuse Sir William as heartily for making experiments on the brains of the lower animals, from which he draws conclusions adverse to Phrenology, as they did us, when they ascribed to us falsely the experiments made by Bouillaud? We suspect not.

DR THOMAS STONE.—“DIED.—On the 13th inst. of a deep decline, the consequence of excessive study, Dr T. Stone, much regretted by all classes of literati in Edinburgh except the Phrenologists.”—*MORNING HERALD, Saturday, October 22. 1831.*

Although the above extract has been sent to us as a literal copy from the authority subscribed to it, we conceive it to bear the strongest internal evidence that Dr Stone's well known appetite—for study—has not thus early consigned him to oblivion. We firmly believe that Dr Stone is the only human being who could possibly imagine *his* death the cause of joy to phrenologists, and consequently the only human being who could conscientiously pen such a notice. So large a portion of Dr Stone's life having been spent in proving, *practically*, that no evidence deserving of reliance, no argument worthy of attention, can be brought against Phrenology, how dreadfully ungrateful, how utterly absurd, were it in phrenologists to rejoice at the death of so useful an auxiliary! We can assure Dr Stone that “all classes of literati in Edinburgh”—the class that *does*, and the classes that *do not*, acknowledge Dr S. as “one of them”—all put together would have less reason to regret his death than they whom he thus, strangely enough, imagines to have most cause of joy.

We have received the following works:—*Outlines of the Science of Life*, which treats Physiologically of both Body and Mind; designed only for Philosophers and other Candid Persons. By Elisha North, M. D. &c. &c. New York, 1829.—*The Chameleon*: Glasgow, 1831.—*The Social System: A Treatise on the Principle of Exchange*. By John Gray. Edinburgh, 1831.

THE
PHRENOLOGICAL JOURNAL.

No. XXXI.

ARTICLE I.

NEW VIEWS OF PENITENTIARY DISCIPLINE AND MORAL EDUCATION and REFORMATION of CRIMINALS. By CHARLES CALDWELL, M. D. Philadelphia, being Observations on a Letter on Penal Law and Penitentiary Discipline, by the Honourable EDW. LIVINGSTON.

[We have received the following Treatise from Dr Caldwell, Professor of the Institutes of Medicine in the University of Lexington, United States, whose talents, intelligence, and zeal, are well known to the readers of this Journal. The subject is one of much importance, on which very few correct ideas are possessed by the public; and Dr Caldwell's views will be found distinguished by clearness, depth, and practical applicability. We regret that we are obliged to divide the treatise, and to reserve for next Number its concluding and most valuable portion.]

For reasons which are equally obvious and substantial, this letter has attracted an unusual share of public attention, and promises, we think, to lead to unusual results. It has awakened, in the enlightened portion of the community, a more active and earnest spirit of inquiry, touching the general subject of it, and been the source of a more abundant production of thought, on the particular topics it discusses, and the views it presents, than is commonly elicited by articles of mere private correspondence, or such as are intended for the columns of a newspaper.

The object of the letter is of peculiar interest to the patriot and philanthropist, and vitally important to the security and well-being of civilized man. Its author, who is rarely talented, and extensively informed as a statesman, civilian, and counsel.

lor at law, has made it long a subject of profound investigation ; the sentiments it contains are marked with great sagacity and a thorough knowledge of human nature, and it is traced by the pen of a powerful reasoner, and a disciplined scholar. In its kind, it is a rich and masterly performance. As far as it professedly enters into the important inquiry to which it belongs, it is calculated, we think, to produce conviction in every intellect that faithfully studies and fully comprehends it. It abounds in the matured fruits of observation, experience, patient and successful research, and deep reflection, the only sources of valuable knowledge on such a subject. Many of its thoughts may be regarded as lessons of practical wisdom, which will continue incontrovertible as long as the nature of man shall endure.

If it is a truth, sanctioned, at once, by reason, sound policy, benevolent feeling, and the mild and merciful tenets of christianity, that, wherever there exists a prospect of effecting them, the improvement and reformation of convicts should be the leading object of penitentiary discipline ; improvement in knowledge, and reformation in industry, morals, and good conduct ; if this, we say, is true, it is no less so, that, as the letter fully and satisfactorily sets forth, such changes can never be effected by coercion and stripes ; and the case is rendered more hopeless, by the permission of intercourse between the prisoners.

There is in the constitution of human nature, implanted there by the wisest of Beings, for the best of purposes, that which rebels against all that is compulsory ; which revolts indignantly from arbitrary constraint ; and which instinctively hates and rejects even virtue itself, if sternly enforced by positive authority. Although his body is in chains, man feels within him something that is free. Whether in the dungeon or the galley, he proudly cherishes, as an original and exalted attribute of his nature, the boon of mental free agency ; the power to indulge his thoughts, or to suspend them, to fix them steadily, or to permit them to wander ; and, if he is not degraded far below the level of humanity, and the hope of reform, he obeys that power, even under the stern and opposing command, enforced by the threat and the lash, of the most inexorable task-master the law can place over him. His moral and intellectual constitution cannot be changed, by the mandate of authority, any more than his physical ; nor can he be taught any thing either useful or virtuous, in opposition to his nature. If taught at all, the process of instruction must be in strict conformity to the principles of his being. He must himself *will* his own reformation, before others can achieve it. And no sooner has he honestly and deliberately willed it, than the task is more than half performed. The great object of the reformer, then, is to excite that will ; to induce the culprit voluntarily and practically to prefer virtue

to vice, morality to crime, reputation to disgrace, and industry and independence to idleness and poverty. It is not enough to produce a change in his mere outward actions, by making him labour against his will. That within which dictates action must be changed, else the work of reformation is yet to begin; but all this, as will more fully appear hereafter, must be accomplished, not by coercion rendered hateful by the scourge, but by education and discipline, made acceptable, at least, if not desirable, by reason, principle, and firmness, united to a benevolent and earnest wish, in the teacher, to bestow a benefit, by rescuing a fellow-being from the dominion of vice. Nor is it unimportant that the malefactor have full confidence in the sincerity of this wish. The individual who has convinced a criminal of his kind and ardent desire to reform him, not as a punishment, nor to gratify himself, but for his own welfare, and to restore him to society, has done not a little to effect that reform.

On this topic, then, we deem the views of Mr Livingston correct, and beg leave earnestly to recommend them to public consideration. The truth they inculcate constitutes the only solid foundation of the reformation of culprits. If that truth be neglected, the case is hopeless; and the sooner all spurious systems of reform are abandoned the better. They are but costly hindrances of wiser measures.

To reform criminals is to improve them in morality and industry *always*, and in knowledge *very generally*; for vice and ignorance are usually associated. Not only in our own country, but in every other whose history is known to us, penitentiaries are peopled by the ignorant and the idle. In the nature of things, such must be the case. If to this exceptions exist, they are so few as to be no infraction of the general rule. But we need scarcely add, that it is not possible to inculcate successfully either morality or knowledge, to teach industry, or to impart any other valuable quality, by corporal punishment. It is a law of nature, that the fruit must resemble the tree that bears it. The product of ignominious means is itself ignominious. An appeal, therefore, to the most ignoble and degraded feeling of man, his craven dread of punishment, can never elevate him, or render him better. On the contrary, although appearances may speak, for a time, a different language, it cannot fail to make him worse—more deceitful, with at least as much depravity, and, therefore, less virtuous; even the mock-saint, who affects to embrace religion, from a dread of future suffering, but adds hypocrisy to his former vices.

Crime, as will appear in a subsequent analysis, is the product of mere *animal propensity*, and not of any attribute that pertains to *real humanity*; not, we mean, of any of the nobler attributes of man, which belong to him alone, as elevated over

the rest of the animal kingdom. Such attributes are, in their nature, friendly to virtue, and tend to its promotion. To reform a criminal, then, you must make him less of an *animal*, and more of a *human being*. Strengthen his higher and better qualities, at the expense of those that are leading him astray. But this is not to be effected by blows. Such discipline cultivates no moral or intellectual faculty. It neither communicates knowledge nor ministers to virtue. It excites smothered resentment, hatred, and fear, awakens and nourishes a propensity to revenge, and teaches caution, concealment, and practises artifice, and there its influence ends. But these feelings being purely *animal*, and the very reverse of all that is praiseworthy, or that ministers to amendment, its direct and necessary tendency is still more deeply and hopelessly to *brutalize* man, not to reform him. It compels the culprit to regard civil society, by whose authority it is inflicted, as his avowed and inexorable enemy, and, as an inevitable consequence, renders him the self-sworn enemy of the human race. It degrades him, moreover, in his own opinion; and, as already intimated, out of degradation nothing valuable can possibly arise. As well may you attempt, by the infliction of stripes, to excite, in the sufferer, pleasurable feelings, as either a virtuous emotion, or a praiseworthy resolution. Or if, under the smarting of the lash, such a seeming resolution be formed, it is as unstable as passion, and as faithless as hypocrisy. It deceives even him who forms it. Its violation, therefore, is as certain and speedy, as the occurrence of temptation united to opportunity. It is but a house erected on the sand, which the first billow of passion will demolish. It, for a short period, deters from crime, but awakens no disrelish of it.

But, from the practice of habitually inflicting on criminals the punishment of the lash, there arises another evil, not much less to be deprecated, to which Mr Livingston has not adverted. It is the deteriorating effect which it 'necessarily' produces on those who consent to engage in it, and become its ministers; its inhumanizing influence on all who enlist themselves as punishers by profession. If we are not greatly mistaken, it tends to the extinguishment of all high, amiable, and honourable feelings in the hirelings who pursue it, almost as inevitably as in the convicts who are the subjects of it. To morality, virtue, or any praiseworthy sentiment or feeling it has no affinity. Being exclusively the offspring of animal propensity, its unavoidable effect is to brutalize those who are daily concerned in it. If it does not render them actually criminal, it indubitably prepares them for crime. In direct proportion as it makes them more of animals, it makes them less of men. It is a foe to benevolence, and, therefore, obliterates those fine sympathies and charities of human nature, which are among the most valuable safeguards of virtue

From these causes arises the effect which Mr Livingston so justly condemns; the frequent perpetration of punishment on convicts, by "underkeepers," when it is not perhaps deserved; or, at least, in a degree beyond what is deserved. This punishment is often commenced from mere suspicion, and afterwards continued and increased in severity, to gratify the angry passions of those who inflict it. Nor does the outrage stop here. In many instances, the unmerited and unmerciful chastisement is pushed to such an extent, as to extort from him who is the subject of it a positive falsehood, as the only guard against its continuance. For, when an underkeeper barely suspects a criminal to have done, or said, or looked, any thing in violation of order or law, the penalty of the whip is instantly inflicted, without conviction or even trial. The subordinate officer is at once informer, accuser, prosecutor, jury, judge, and executioner, and proceeds to whip, to extort first a confession of a fault, which has not perhaps been committed, and then to punish still further, for its falsely but compulsorily acknowledged commission.

A system of discipline like this, established for the professed purpose of either meting out impartial justice to criminals and convicts, or producing in them such a reform as to prepare them for the duties of orderly and valuable citizens, is unqualified mockery. Human ingenuity could scarcely devise a scheme more entirely calculated to debase man, confirm him in vice, and unfit him for society, if he were not already unfitted. It savours as little of wisdom and sound policy, as of benevolence and clemency. It is utterly wanting in them all.

Were the convicts sentenced to confinement during life, like the galley-slaves of Barbary, or those who formerly groaned beneath their chains, in the mines of Spanish America, and the object in view was merely to preserve order, and enforce labour, within the walls of the penitentiary, such a plan of discipline would be well enough suited to such an end. But, where reform is intended, and the criminals, after a term of years, are to be let loose again on society, the system is calculated to infuriate them against man, to bind them more durably to each other, by consociated suffering and mutual sympathy, and train and harden them in their propensities to crime.

Such are the inferences we are compelled to draw from the well-known principles of human nature; and observation and experience confirm their truth. The histories of penitentiaries and their inhabitants teach us, that offenders, dismissed from those places of chastisement, after severe treatment, which they considered tyrannical and unjust, have been too *frequently*, not to use a stronger term, and say *always*, more confirmed in their vicious propensities, and more inflexible in their course of male-

factions. They have returned, with increased voracity, to their acts of felony, like famished wolves to their ravenous meal. The discipline they have undergone has taught them deeper artifice, and more dexterous cunning, and rendered them doubly dangerous to society. But it has never reformed them, and it never can, until causes cease to be followed by their *natural* effects, and produce the *contrary*. If reformation has been effected in them at all, it has been by other means.

Mr Livingston's remarks generally on the Auburn system of penitentiary discipline, appear to us to be judicious and correct. We think, with him, that the seclusion of the convicts, by night, each in his own dormitory, is a salutary measure. It conforms, at once, to the principles of our nature, and the dictates of experience. But we concur with him no less fully, when he alleges, that their consociated labours, by day, are a fatal drawback on the benefits derived from their separation at night. To say the least, the latter cannot fail to be so nearly neutralized by the former, that, under such training, the progress made in reformation must be very limited. It can scarcely be worth the trouble and cost of the experiment. We are told, that notwithstanding the strictness and severity with which the ordinances of the institution are executed, the wardens themselves acknowledge that the march of reformation is feeble and slow. They even add, that they have almost ceased to expect reformation. Hence the Auburn penitentiary is much more a place of confinement, labour and punishment, than of actual or even meditated reform.

It is further true, as Mr Livingston contends, that if the reformation of criminals be effected at all, it must be by seclusion at night, and solitary labour by day, united to a suitable system of instruction; but that neither the labour nor the instruction must be compulsory, or associated, in any way, with the idea of punishment. The former must be granted in a spirit of kindness, as a relief, in solitude, from the sufferings of loneliness, and the latter should be given when earnestly sought for, or as the reward of good conduct. In this way, there is reason to believe that much may be done; because the effort will be made in perfect conformity to the nature of man. And when that is the case, and the plan is persevered in to the requisite extent, bad and debased as we know convicts usually are, they are worse than we think them, if many of them cannot be improved and reformed, divorced from vice and wedded to virtue, and converted from crime to praiseworthy action and useful lives. We say *many*, but not *all*. As there are corporeal maladies which no treatment can heal or alleviate, so there are mental debasements and profligacies which no human means can remove, or even amend. They would seem to be incorporated in the very

texture of the soul, or at least to cling to it with such strength of adhesiveness as nothing earthly can dissolve. Nor is it the least important element of the science and process of penitentiary training, to be able to predict which cases of convict depravity promise reform, and which are hopeless. On this topic a few thoughts will be offered hereafter.

Mr Livingston is of opinion, that if, before they have made considerable progress in reformation, convicts are permitted to associate with each other, either by day or by night, during relaxation or labour, no possible vigilance and rigour, on the part of the keepers, can prevent them from holding such intercourse, by words and signs, as will prove mutually corrupting. And further, that every scheme of penitentiary discipline is defective and insufficient, exactly in the degree in which it departs from solitary confinement, and enforces labour by chains and stripes.

In both of these opinions we fully concur with him, and consider their correctness supported alike by reason and experience. Nor do we deem his sentiments less true or valuable, when he expresses his views of the interest and duty of Pennsylvania, in relation to this important subject; her duty, not to herself alone, but to the great and growing community of which she forms a part.

Enlightened by the wisdom, and influenced by the benevolent spirit of her founder, that state was the first to propose a rational plan for punishing and reforming criminals, by the same process. For trying the efficiency of this plan, by actual experiment, the only satisfactory test to which it can be brought, she has lately incurred very heavy expenses, and erected, on an extensive scale, buildings peculiarly suitable to the purpose.

Discouraging representations of her plan having been made to her, and another, deemed better, suggested as a substitute, it is understood that she has been herself induced to doubt and pause. This we consider a serious misfortune, not to herself alone, but to the United States; nor to them alone, but to the civilized world; for should her experiment succeed, as, under the means at her command, we feel persuaded it will, the civilized world will, in time, participate largely of the propitious result. We think, with Mr Livingston, that she should feel a pride in persevering resolutely and strenuously in what she has so wisely and benevolently begun; and in being the first to taste the matured fruit of the goodly scion, which she was the first to plant.

We trust, therefore, that her present pause, in a work so momentous to herself and the human race, will be of short duration. Might we venture to address her to that effect, in the language of advice, we would earnestly recommend to her to make it as short as possible. The sooner she begins again, and

the more rapidly she proceeds, the sooner will she find cause to rejoice in her policy, and exult in her success. The sooner will the look, with peculiar delight, on her own criminals reformed, and reduced in number, and hear, with a degree of gratification but little inferior, of similar improvements throughout the Union.

Should she abandon her scheme, and adopt another of less efficiency and usefulness, the amount of evil which the measure can scarcely fail to produce would seem incalculable. The act will be contagious. Her abandonment will deter other states and communities from engaging in the plan of criminal reform, and the experiment, if ever made, will scarcely, perhaps, be made during the present century. In the mean time, as our cities, in particular, and the country, in general, shall become more densely populated, will our vices multiply, until, in the demoralization of our people, our amount of crime, and the crowdedness of our jails and penitentiaries, we shall equal the nations of the old world.

We repeat, therefore, our anxious hope, that Pennsylvania will not abandon and leave unfinished a work so important; but that she will inflexibly pursue and satisfactorily complete it. Thus, in the words of Mr Livingston, will she have the satisfaction and honour of being the first to solve, in a manner equally fair and definitive, "the great question, whether convicts cannot, by a judicious treatment, be reformed as well as punished, by the same process; whether they may not be made examples to follow in their lives after punishment, as they are examples to avoid, in their conduct preceding it? Whether the whip is the most proper instrument to inculcate lessons of religion, morality, industry, and science; and whether a man will love labour the better, by having been forced, by the infliction or the fear of the lash, to perform a certain quantity of it every day?"

Another hint, in the letter of Mr Livingston, cannot, at the present crisis, be too seriously pondered by the legislature of Pennsylvania. As relates to the Auburn scheme of discipline, is there not great danger, that the good it does, in maintaining subordination among the convicts, and procuring from them a certain amount of productive labour, may be attributed to a wrong source? May it not, by a very natural mistake, be ascribed to the imputed excellencies of the system itself, while, in truth, it is derived almost entirely from the judicious and efficient mode in which its ordinances are enforced by the wardens and keepers? We know that the most exceptionable form of government may, by a wise, benevolent, energetic, and vigilant ruler, be so administered, as to produce among its subjects

prosperity and happiness. In investigating this point, then, let not the lines of the poet be forgotten,

* For forms of government let fools contest,
* That which is best administered is best."

But the most important sentiment in Mr Livingston's letter remains to be mentioned. It is that which recommends the promotion of education, and its general diffusion throughout the community. To promote education, in the full and genuine meaning of the term, is to promote every thing beneficial and valuable to man; and to neglect it, is the reverse. Education is the great fountain of earthly good, and the only efficient preventive of crime.

"Train up a child in the way he should go, and when he is old he will not depart from it." Let man, from his infancy, be competently instructed in knowledge, and disciplined in morality, religion, industry, and good manners, and states will find but little use for codes of penal law, and systems of penitentiary discipline. The fountains of vice being nearly dried up, the peace and harmony of society will be preserved, and its general welfare secured without them. Crime will be prevented, by the prevention of that idleness and depravity from which it arises. And it would be superfluous in us to proclaim the vast superiority of prevention over cure. Crime is as truly the natural growth of ignorance and a want of suitable employment, as weeds and brambles are of uncultivated ground. Till the ground with judgment and industry, and its noxious growth gives way to that which is salutary and profitable.

In like manner, to be secured from the dominion of evil propensities, and withheld from the perpetration of criminal acts, man must have his intellect cultivated and improved, by suitable education. Without this, vice, in all its forms, will rapidly increase in our country, notwithstanding every effort to prevent it, which wisdom, patriotism, and philanthropy can make. Penal codes and penitentiary systems may be checks on its rankness, but nothing more. Far from extinguishing it, they will afford to the community but a feeble protection from its secret artifices and open assaults.

Thus far we have deemed it our duty to notice, and, in part, analyze, the very excellent communication from Mr Livingston to Mr Vaux. The sum of it, in brief, is as follows:—

The Auburn penitentiary system is faulty, and ought not to be adopted by the state of Pennsylvania. Criminals cannot be reformed by corporal punishment, and the dread of it. Nor can they be reformed, in any way, if they are permitted to associate with each other promiscuously, or even in classes, either by day or by night. That their reformation may be attempted, with any reasonable prospect of success, they must be held in

absolute and permanent seclusion, permitted to labour, as a relief from feelings of desolation, and receive suitable instruction, as the reward of good behaviour, or in compliance with their own earnest request. But nothing, by which they are expected to be benefited, should be forced on them as a punishment. When, in any number of them, satisfactory evidences of reform have appeared, and continued for a period deemed sufficiently long, they may be permitted, under proper supervision, to mingle with each other occasionally, as a special indulgence, and an encouragement to perseverance in correct conduct. Sound education, begun in childhood, and including the inculcation of knowledge, morality, religion, industry, and good manners, constitutes the only true and solid foundation, on which the prosperity and happiness of a people can rest.

Such are the contents of the communication by Mr Livingston; and, considering that the article is but a private letter, of moderate length, addressed to a friend, it will not be denied, that they are as ample in amount as they are interesting in their nature, and important in their bearing.

But a subject of such extent and moment, as that to which they relate, cannot be competently treated within the compass of a few columns of a newspaper. To do it justice, a more extended and analytical exposition is necessary. Persuaded, then, that the system of penitentiary discipline, by seclusion, labour, and instruction, judiciously blended and faithfully administered, is alone calculated to accomplish, by the same process, the true ends of penal law, the punishment and reformation of the convict, and the prevention of crime in others; and believing that, by further illustrations, and other views of it than have been heretofore given, the practical excellencies of that system, and its superiority over all others, may be more clearly demonstrated, its administration improved, and the system itself more effectually recommended to general acceptance, and the patronage of the several States of the Union; influenced by these considerations, we shall proceed to a further analysis of the subject, drawing our lights from different sources, and endeavouring to establish our views on different principles, and to strengthen and enforce them by arguments other than those which have been generally employed by preceding writers.

To speak plainly, it is our intention now to endeavour to show, and in this we are serious, that the principles of Phrenology coincide precisely with the sentiments of Mr Livingston, in setting forth the fitness of his favourite scheme of penitentiary discipline, at once to punish and reform from crime, such a being as man. Nor is the influence of those principles limited to this. We trust we shall be able further to show, that they throw much additional light on the subject, give to the scheme

the character and sanction of practical philosophy, and thus increase the facilities, and contribute not a little to the perfection, of its administration. Were Mr Livingston a professed phrenologist, and had his object been to write a recommendatory comment on the science, he could scarcely have furnished a more express and forcible one than his letter contains.

We entreat the reader not to be startled at this open avowal of our belief in Phrenology; nor offended because we did not make it sooner. Had any thing in Mr Livingston's letter, or in the nature of the subject of which it treats, demanded it of us, we should have made the avowal at the commencement of this article. Nor, although we do not profess enthusiastically to glory in it, much less are we ashamed of our phrenological creed.

In our belief of this science there is nothing *voluntary*; nothing which we could *at option* choose or refuse. It is the result of *all-controlling necessity*. It was forced on us, by evidence which we could not resist, and did not, therefore, reject. On such evidence we would be willing to rest our belief in Christianity, including its high and solemn connexions with our present comforts and our future hopes. Nor, as we conscientiously believe, would the candid and enlightened reader fail to receive it as conclusive, and yield to its authority, had we leisure, and were it expedient in us, to lay it fully before him. Although this evidence did not come to us from above, by any immediate act of revelation, we notwithstanding accept it as pertaining to the "elder revelation," because we regard it as a response from Nature, who is the priestess of heaven, and the oracle of its ordinances, acts, and purposes.

We ask the reader, then, to bear with us patiently, repress the curl which is perhaps rising on his lip, and listen to our story. This request we are privileged to make of his courtesy and good nature. But we address ourselves also to his higher qualities. On the ground of his justice, candour, magnanimity, and self-respect, we entreat him to forget, while we are discoursing to him, that Phrenology has been denounced by the bigoted, anathematized by the intolerant, abused by the discourteous, ridiculed by the witty, and laughed at by "the million." We consider him intelligent, and need not, therefore, inform him, that these several modes, in which different individuals express their feelings, pertain to temper rather than intellect. They are neither tests of truth in those who practise them, nor of error in that against which they are directed. They are mere evidence that different persons feel, and think, and utter their thoughts and fancies differently, each one according to his native disposition and endowments, and his acquired habits, and nothing more. To this may be added, by way of appendix,

that such manifestations bespeak puerile conceit, rather than manly research, and ill nature, rather than good sense; and that they indicate, in those who make them, some sinister and selfish motive, rather than an honest love of truth, and much more frequently than they expose error or fault in the persons or things that are uncivilly assailed by them.

But we are not yet done with our appeals to the reader. Having apprized him of some things which we wish him to forget, we now present to him the reverse of a blank tablet, on which are traced, for his inspection, a few points of remembrance.

Here again we address ourselves, at once, to his magnanimity, justice, and hospitable feelings, and beg him to remember that Phrenology comes to him as a stranger, well recommended, as he will presently perceive, and that, therefore, on the ground of ordinary civility, to say nothing of a higher claim, it is entitled to respectful treatment, until it is proved to be an impostor. He will also bear in mind, that if nothing new in science be proposed, improvement is at an end. He will not, therefore, condemn it merely because it has not a place in antiquated textbooks.

We solicit him further to remember, that Phrenology has never yet been opposed, much less refuted, by established facts, and honest arguments; that those who have most fiercely and pertinaciously railed at it, have been uniformly actuated by motives of real or supposed interest in its rejection and overthrow; that every one who has faithfully and attentively studied it, has become its proselyte; that once proselyted, no one has ever been known to apostatize, but that all become, by further inquiry and in progress of time, more fully and irrevocably convinced of its truth; that when they have been induced to examine it, without prejudice, the most rigid inquirers and the closest reasoners have become most promptly and certainly its votaries; that in the most intelligent circles of the most enlightened cities of Europe—London, Edinburgh, Paris, Dublin, Vienna, Berlin, Stockholm, and others, it is spreading with an impetus which nothing can resist, and which, at present, there is scarcely an attempt made to resist; that not a few of the most distinguished divines, and very many of the ablest physiologists, naturalists, and general philosophers of Europe, are its disciples and advocates; that of the men of real distinction in science, who once opposed it, many are proselyted, and most of the others completely silenced; and that its applicability to the most important purposes in medicine, education, jurisprudence, legislation, criticism, and taste, and to the solution of many curious and interesting phenomena, not to be otherwise explained, pertaining to individual man, to entire nations, and to the several varieties

of the human race, is clearly demonstrated, and universally admitted by those who understand it. These things we respectfully ask the reader to remember; assuring him that they are true. We wish him further to remember, that Phrenology has outlived all the attacks made on it, by wit, ridicule, irony, abuse, denunciation, and calumny; and not merely outlived them, but prospered and spread very rapidly in spite of them. Like the nut-tree in the fable, it has even seemed to bear more and better fruit on account of being stoned. If overthrown at all, therefore, it must fall under weapons of assault altogether different from those that have been heretofore employed against it. Another topic of remembrance which we would earnestly press on the reader is, that, in our own country, many of our most distinguished writers and teachers in medicine who affect to condemn Phrenology, are notwithstanding compelled, as their lectures and publications evince, to adopt its views and employ its language; and that the same thing is true of the physicians of Europe. Nor are we willing he should forget, that if Phrenology possess the utilities here alleged of it, it *must* be useful also in throwing light on penitentiary discipline; that, in fact, it *must* be useful in every process, where a correct knowledge of intellectual man is required. Above all, we entreat him to remember, that he owes to himself, to justice, science, candour, the institutions and customs of his country, and his love of truth, not, in this land of right and trial by jury, to condemn a branch of knowledge unheard and reject it unexamined, merely because it is denominated Phrenology, and purports to be something new. The "Novum Organum" of Bacon, and the "Principia" of Newton, contained originally many things that were new, and were, on that account, assailed by stern denunciation. So far the same reason, was Christianity itself, and every other improvement that has benefited man. It is true, we repeat, and the truth being important, will be borne, we hope, in permanent remembrance, that all improvements, discoveries, and inventions, that have contributed pre-eminently to the benefit of our race, have always, at first, had violent opposition to encounter, while persecution has generally been the fate of their authors. Nor is it possible for the case to be otherwise, while man shall retain his present temper. Every important discovery, invention, and improvement, must necessarily find a foe in the pride of some, the self-interest of many, and the prejudices of a still greater number. Let it never be forgotten, then, that wrath and denunciation are no more tests of truth than wit and ridicule. In fine, we trust the reader will remember, that we are honestly endeavouring to establish momentous truths, for the advancement of science, and to show their applicability to practical purposes, for the promotion and security of the welfare of society.

Thus remembering, we feel persuaded that he will bear us company to the end of our discussion; listen attentively to all we shall have to say, and decide on it candidly, according to its worth. This compact being settled, we have no further favours to ask of his courtesy; and shall only add, that if, before he knew us to be phrenologists, he found, in our sentiments, any manifestations of sober reason and common sense, he will not be likely to meet with less of those ingredients, in the pages we have yet to submit to his perusal. "*Illo jndice*," therefore, we shall proceed to our task.

Although to render our views fairly intelligible, some exposition of principles will be necessary, we shall make that exposition as brief as possible. In announcing principles, we shall state nothing which we do not consider satisfactorily proved.

Phrenology treats of man only in his present compound capacity; constituted, as he is, of mind and body. Of his future mode of existence and action, enjoyment or suffering, it takes no cognizance, but leaves that, as a point of transcendentalism, to the pleasure of Him who placed us here, and who will wisely and beneficently dispose of us hereafter. Yet it fully recognises, as the reader will perceive, the necessity and value of morality and religion, and shows them to be attributes which, beyond all others, elevate and ennoble the human character.

The brain is the organ of the intellect; and according to the size, form, and condition of that organ, is the strength, activity, and peculiar character of the intellect. If the brain is excellent in all its qualities, so is the intellect; and the reverse. Without the brain, the mind can no more perform an intellectual act; than the brain can without the mind.

The condition of the brain, like that of the muscles and organs of sense, can be altered and greatly improved by exercise. The brain may be thus rendered much more powerful and adroit in intellectual action, precisely as the eye can in vision, the ear in hearing, and the muscles of voluntary motion in the functions that pertain to them.

The entire business of education consists in improving the condition of the brain, that process not being predicable of the mind at all. To speak of educating the mind, as an abstract and uncompounded substance, is to use words without attaching to them any definite or intelligible meaning. All that education can do, is to render the brain a better apparatus for the mind to work with; and that is all that is necessary for the effecting of intellectual improvement. Whether you sharpen and otherwise improve the sword, or increase the vigour of the arm that wields it, you deepen alike the wound it inflicts.

The brain is not a single organ, but an aggregation or system

of individual and subordinate organs. Each subordinate organ is the seat and instrument of a corresponding faculty of the intellect, which cannot be manifested without its agency.

In the human intellect there are thirty-four primitive faculties, distinct from each other, and independent in their functions. There is, of course, in the brain, an equal number of subordinate organs.

The faculties are divided into four sets or families, the Animal propensities, the Moral sentiments, the Knowing faculties, and the Reflecting faculties. The brain is divided into a corresponding number of compartments, where the organs of these sets of faculties exist together in aggregates or groups. It possesses, therefore, an animal compartment, a moral compartment, a knowing compartment, and a reflecting compartment. In all our dealings with the human family, as well as in the judgments we pass on the characters of individuals, it is important to hold this division in remembrance, and to be strictly observant of the developments which correspond to it.

The animal compartment occupies the base of the brain, reaching, in the occipital region, about half way towards the top of the head, and, at the sides, rising a little above the top of the ears. It does not so extend to the front of the brain, as to constitute any portion of the forehead.

Directly over the animal is placed the moral compartment, occupying the entire top or roof of the brain, and the upper parts of its sides.

The knowing compartment occupies the base of the brain in front, from side to side, and reaches to about the middle of the forehead, or a little higher.

The reflecting lies immediately over the knowing compartment, forming the more elevated portion of the forehead.

Other things being alike, the strength and efficiency of any single organ or set of organs, is in direct proportion to its size; and its size can be ascertained by the dimensions and form of the head. By an inspection of the head, therefore, a practised phrenologist can tell which organ, or set of organs, preponderates. And as is the predominance of the organs, so is that of the faculties, unless education has altered the balance. And it is education alone that can thus alter it, by strengthening one or two sets of organs, while the others remain unchanged.

Like all other parts of the body, the brain is most flexible, and therefore most easily changed and improved in early life. With the progress of years, its habits of action become more settled and confirmed, until in manhood they are stubborn, and at a period more advanced, unalterably fixed.

Out of the four compartments of the brain arise the four great compound attributes which pertain to man, animal energy,

moral sentiment, knowledge, and the power of reflection. And according to the predominance of one or more of these, is the form or type of individual character. When they are all strong and properly balanced, they confer on their possessor great power.

Does the animal compartment predominate?—the individual is characterized by mere animal energy, and very little else. Does the moral compartment prevail?—his feelings, views, and actions partake instinctively of moral purity and correctness. The knowing compartment?—he acquires very readily a knowledge of things, especially in their insulated or individual capacity. The reflecting?—he delights in examining the relations of things, and has powers peculiarly suited to that purpose.

It will be readily perceived, to what an extent the character of man can be modified, by different degrees of strength in these four attributes, and their various combinations. And when it is recollected, that, as just stated, the attributes are compound, each consisting of a number of subordinate ones, the modifications that may be thus produced, will, to a contemplative mind, present themselves in numbers beyond calculation. Hence arises the infinite variety of our race, no two individuals being intellectually alike.

From the four compartments of the brain, spring, as their native growth, all the vices and virtues, and all the knowledge and wisdom which constitute, collectively, the human character.

If left without due and efficient control, the animal compartment is the nursery of vice. Its propensities, when excessive, lead directly to the commission of crime. An individual, therefore, entirely uneducated, the animal compartment of whose brain greatly predominates over the others, especially over the moral and reflecting, is constitutionally prone to vice, and easily led into it, by the influence of example. Such a being can be withheld from profligate indulgences, only by early and sound education, and habitual association with the moral and the virtuous.

Does the moral compartment alone, or do both the moral and the reflecting predominate over the others?—the individual has a native and instinctive distaste of vice and grossness; and, unless corrupted by a bad education, and profligate associations and examples, or impelled by irresistible temptation, or stern necessity, avoids crime, as a thing which he abhors, because it is entirely out of harmony with his feelings, and because his habits of reflection teach him that it is injurious both to himself and others. It is those who are thus constituted, that, in the words of the poet,

—“Follow virtue, even for virtue's sake.”

By ~~per-sonal~~ education, such characters are doubtless improved in

their moral habits; but, though entirely uneducated, their conduct is generally correct, and their lives free from revolting impurities.

There is yet another class of men, in the formation of whose characters education manifests its highest influence, and, perhaps we might add, its greatest usefulness. It is those in whom all the developments are large, and the several compartments of the brain in a state of well-adjusted equipoise. Such individuals are, in their deportment, moral or otherwise, according to their training, and the strength of the temptations to vice which they encounter. When their education is liberal and well-directed, they can scarcely fail to attain to eminence, because they are not only gifted in intellect, but endowed with superior energy and moral worth. It is in persons of this description that we witness, at times, the greatest discrepancy of conduct and character. Their animal propensities being powerful, strong temptations occurring, lead them often into improper indulgences, while, under other circumstances, their career is brilliant, and their conduct exemplary. This class of individuals precepts, according to the discipline received, and the incentives to action, very striking instances of both virtue and crime.

Of itself, the knowing compartment of the brain gives no inclination to either virtue or vice. Nor does it take any cognizance of the consequences of action. It simply furnishes knowledge to be employed by individuals, according to the predominance of their other compartments. The mere animal man makes use of his knowledge for the gratification of his propensities. If these are ungovernable, he applies his knowledge to vicious purposes. The mere moral man appropriates his knowledge with praiseworthy intentions, but not always judiciously; while the moral and reflecting man takes counsel at once of wisdom and virtue, and promotes, by his knowledge, the welfare of his race.

That our exposition of this subject may be the more circumstantial, and our views in relation to it the better understood, we deem it necessary to recite the names of several of the animal organs with their faculties, and a few of the moral.

In the animal compartment of the brain are found the organs of Amativeness or sexual desire, Philoprogenitiveness, or the love of offspring, Adhesiveness or general attachment, Combativeness and Destructiveness, whose names are their interpreters, Secretiveness, the source of falsehood, treachery, intrigue, and slander*, Covetiveness,† which prompts to theft, robbery, and

* In the production of "treachery" and "slander" Destructiveness is also concerned.

† Acquisitiveness is now generally adopted in place of Covetiveness. The latter is a term for the abuse only, and never can be useful.—Ed.

all dishonesty in the acquisition of property, and Constructiveness, the impulse to mechanical pursuits, accompanied with a facility in becoming dextrous in them. It is to be understood that these organs and propensities are essential elements in the composition of man. In their *nature*, therefore, there is nothing faulty. On the contrary, when duly regulated in force, and kept within their proper sphere, they are exclusively useful. It is only their excess and wrong direction that hurry into crime.

It is the licentious indulgence more especially of three of these propensities, aided by some of the others, as copartners in guilt, that fills our jails with criminals, and our penitentiaries with convicts. These are Amativeness, which, singly, leads to rape; combined with Destructiveness, to rape and murder, and also, at times, to murder from jealousy; and with Secretiveness, to immoral intrigues between the sexes. Destructiveness, which is the source of felonious homicide in all its forms. If it be combined with Combativeness, Cautiousness being small, the murder is bold and open; if with Cautiousness and Secretiveness, Combativeness being small, it is private assassination, perpetrated often by the midnight dagger, or the poisoned cup. From the same source proceed arson and other modes of secret devastation by fire. Covetiveness, which seduces to the illegal and felonious acquisition of property, when united to Combativeness, the crime is robbery; to Combativeness, Cautiousness, and Destructiveness, robbery and murder; to Secretiveness and Cautiousness, theft and pocket-picking; associate it with Constructiveness and Imitation, and the felony will be counterfeiting and forgery, or perhaps lock-picking and stealing. In this organ we find also the source of the ruinous vice of gambling*. Has the gambler associated with it full Combativeness, he plays fairly and intrepidly. Has he in large development Secretiveness and Cautiousness, with small Conscientiousness, his game is wary, and apt to be fraudulent.

Combativeness and Secretiveness, the former by plunging into riots, assaults, and other breaches of the peace, and the latter, combined with Destructiveness, by urging to the perpetration of slander, often crowd our courts of justice, but seldom, perhaps, contribute to fill our jails. Yet is it true, that quarrels which begin in Combativeness alone often excite Destructiveness to ungovernable rage, and terminate in murder. And slander not unfrequently leads to breaches of the peace, by those who are the subjects of it, and sometimes to the retaliation of death, by violence, on its guilty authors.

Of these propensities the counterpoise is to be found chiefly

* Hope large is generally found in the gambler.—Ed.

in the moral organs of Benevolence, Veneration, Conscientiousness, Firmness, Love of Approbation, Hope, and Cautiousness. The influence of Self-Esteem is not always strictly moral, although it is generally so. Causality, one of the reflecting organs, throws its influence into the scale of virtue, by solemnly warning of the consequences of vice. In a lower degree, Comparison operates to the same effect.

The question has been often agitated by metaphysicians, moralists, and divines, whether man is constitutionally rational, moral, and religious, or rendered so by dint of training? in other words, Whether these attributes are natural or artificial? And, in discussing the subject, great discrepancy of opinion, and no less warmth of feeling, and asperity of temper, have been manifested.

If we are not mistaken, Phrenology enables us to solve the difficulty, and terminate the dispute.

That individual in whom the animal compartment of the brain greatly predominates over the moral and reflecting, cannot be accounted *primitively* either moral, rational, or religious. He is constitutionally animal, and can be withheld from the licentious indulgence of his propensities, only by lack of opportunity, or the influence of virtuous education and example. If he ever become moral, rational, and religious, the issue is to be attributed to artificial influence.

But he whose brain is so happily composed that its moral and reflecting predominate over its animal compartment, is a being constitutionally rational and moral. And as the moral organs of Veneration, Conscientiousness, Wonder, and Hope, are the natural source of religious feeling, he may be regarded as also constitutionally religious. This sentiment is not at war with any tenet of the Christian religion; nor, when fairly interpreted, can it be so considered. Yet an attempt has been made to affix on it the condemnatory stigma of infidelity.

Man must have a natural foundation and aptitude for religious feeling, as well as for feelings of every other kind, else can he never experience the emotion. The sentiment of piety is not a factitious attribute, any more than the sense of vision, or the feeling of physical love. If it were, it would be much less valuable and elevated than it is. It would, indeed, be completely destitute of value. Nor is this the worst. It would even deform human nature, and render it as monstrous as the addition of a supernumerary leg or arm. In the entire composition of man there is not a single factitious attribute. Feeling may be modified, but not created; cultivated, strengthened, and altered, but not implanted. Of the faculties for acquiring knowledge and wisdom the same is true. They are all the growth of constitutional provision; the natural and necessary result of ap-

propriate organization. The constitution and frame of the intellect are as positive and immutable as those of the body. As well may an effort be made to add to human nature a new bone, muscle, or gland, or even a new leg or arm, as a new feeling, sentiment, or power of thought.

In rendering man religious, then, you but *improve* his nature, precisely as you do by any other kind of education. Strictly speaking, you do not *regenerate* it. It is human nature still, composed of the attributes common to our race, ameliorated in its condition. A saint is as much a human being as a sinner. Regeneration, as applied to the conversion of man from evil to good, is a metaphorical term. It is meant as an illustration, not as an assertion of a positive fact. It means simply that the kindred group of moral organs and their faculties have gained a complete and permanent ascendancy over the animal, not that a single new organ or faculty is created. Has the Deity bestowed on man an organ for every other kind of feeling and sentiment, and denied one for that of religion, the most important of all? The very suspicion of so deep a neglect (for such, we think, it might be correctly denominated) would be an irreverent, not to say a criminal, accusation of the wisdom and goodness of Heaven. Nor is this all. Where accountability exists, there must exist also a full power to perform all the duties required. Were the organs of religion, then, withheld from us, we could not be, in justice, religiously accountable. If we had not a native sentiment recognising a God, and leaning instinctively toward him, we would be no more blamable for not adoring him, than are the inferior animals. In fact, without such a sentiment, and its appropriate organ, *we could not adore him*, any more than we could see without an eye, or hear without an ear. To ameliorate man, then, is not to bestow on him any new powers, but to cultivate, strengthen, and direct those which he already possesses. The bounty of Heaven has enriched him with all the faculties necessary to promote his welfare in his present state of existence, and to secure it in another. Every successful effort to convert or in any way improve him, must be made in perfect conformity to his nature. An effort in opposition to it will as certainly fail, as would an attempt to make water flow up hill by the power of gravitation.

In one point of view, every man is constitutionally religious, because every one, whose brain is not idiotically defective, possesses the organs of Veneration, Conscientiousness, Wonder, and Hope. This is as true, as that every one, not defectively organized, possesses lungs and a heart. By the requisite training, then, every one may be rendered, in some degree, practically religious. Our meaning, therefore, in pronouncing some individuals constitutionally religious, in preference to others, is, that

from the preponderating influence of their moral temperament they have, by nature, a much more vivid susceptibility of religious impression and sentiment, and a greater proneness to religious observances and duties, than those whose animal temperament predominates. Their piety and devotion are instinctive, and all their natural leanings toward virtue.

To the educated phrenologist we feel bound to apologize for this very limited view of the nature and constitution of the human intellect. And our apology is, that we mean to confine ourselves strictly to what is essential to our object in preparing this paper. Having now, therefore, as we persuade ourselves, premised what is sufficient, we shall endeavour briefly to show its applicability to moral education and penitentiary discipline; two processes which are in many respects identical. Under the phrase "moral education," we mean to include the cultivation of the reflecting faculties, they, as already mentioned, being calculated to act in subserviency to that training.

It has been observed, in a preceding part of this article, that, in common with every other kind of living organized matter, the brain may be greatly strengthened, and rendered more adroit and efficient in action, by means of exercise; and that it alone, and not the mind, is improved by education. To educate the brain, then, you must exercise it, and you may invigorate and improve either of its compartments, or single organs, at pleasure, by suitable discipline. That it may be suitable, we need scarcely add, that this discipline must be adapted to the nature of the organ or compartment to be improved.

The knowing compartment must be exercised chiefly by observation on external nature, its properties and changes, those being the objects with which it is in harmony, and which excite in it, therefore, the requisite action.

The reflecting compartment can be exercised only by contemplating, examining, and judging of the relations of things, such as similitudes and dissimilitudes, aptitudes and inaptitudes, analogies and contrasts, and precedences and sequences as cause and effect.

The moral compartment must be exercised by moral impression and excitement. These are to be the result of a combined influence, the reiteration of precept, practice, and virtuous example. The latter might be denominated moral sympathy.

The danger, as respects the animal compartment, being that it may run into excess, the correct education of it consists in moderating and directing, not in pampering and strengthening it. The true mode of effecting this will be mentioned presently.

It is to be understood that the four compartments of the brain are so independent of each other, that any one of them may be exercised and strengthened, in its separate capacity,

without materially affecting the others. To dwell in contemplation on the relations of things, does not necessarily involve actual observation of the things themselves; and to obey moral precept, and follow virtuous example, is a process essentially distinct from both. We need scarcely add, that the animal compartment leading to mere animal indulgences, may be powerfully and habitually exercised, to the entire neglect of the other three.

As excitement and exercise strengthen single organs and entire compartments, the converse is equally true. Inaction necessarily weakens them, precisely as it weakens the muscles of voluntary motion. Exercise exclusively or chiefly one compartment, you strengthen it at the expense of the others, which remain at rest. Exercise two compartments, they acquire strength, while the other two are weakened. As respects our present purpose, it matters not whether the weakness produced is positive or comparative. It is, however, in reality, both. The inactive compartments are enfeebled *in themselves*; but much more so, in relation to those that are kept in action. Thus may the exercised compartments be made to govern the others, and give character to the intellect.

It is the development and strength of a few single organs, or of an entire compartment, that forms the *ruling passion*; and, when not counteracted by other influences, that passion is in constant exercise. It is often awake when the other faculties are asleep; and, unless under strong countervailing excitement, the individual indulges it, and submits to its control as habitually and certainly as the stream flows downward, or the needle turns to the pole. In each case the law of nature producing the effect is equally strong and immutable. As is the preponderance of cerebral development, then so is the preponderance of this master feeling.

Does the animal compartment preponderate?—purely animal is the ruling passion. If the moral compartment preponderate, the passion is moral; if the knowing, the individual is engrossed by observation, and the collection of facts; while in those whose reflecting compartment bears sway, the ruling passion clings to the relation of things. The individual is an analogist, a metaphysician, or a wit, or he is devoted to sound analytical philosophy. These several positions, had we leisure to dwell on them, are as susceptible of proof, as any that are connected with the philosophy of man.

It has been already observed, that the true counterpoise of the animal compartment, and the preventive of its excesses, are to be found in the influence of the moral and reflecting. In the training and strengthening, then, of the two latter compartments, so as to give them the control of the former, consists the process of moral education. It need scarcely be added, that to

insure its success this discipline should be practised on individuals, with a care, constancy, and force, corresponding to the degrees of their animal temperament.

In early life, while the susceptibility of the brain is vivid, and its flexibility unimpaired by habit, the process of education of every description is easily accomplished. Provided the ordinary balance between the compartments of his brain exist, a youth may be rendered moral with as much facility and certainty, as he can be rendered knowing. He can be taught to love virtue and practise duty, as easily as he can be taught to read and write. To teach him the latter, educate his knowing organs; to teach him the former, his moral. To instruct him in the relation of things, cultivate his organs of reflection. Sound and confirmed moral habits, then, and a love of virtue, are as much the result of education, as a knowledge of arithmetic, music, or dancing, and, in common cases, can be as readily imparted.

It is the idiot only that cannot be rendered moral. Nor is it less impracticable to teach him reflection. The reason is obvious. His brain is wanting alike in the reflecting and moral compartments. He is a mere animal, possessing none of the intellectual characteristics of humanity. Destitute of the organ of Veneration and its associates, he has no sentiment of religion. This amounts to proof that that organ is essential to piety; and that, to exist at all, religion must be radicated in the constitution of the intellect; or, more literally, in that of the brain. Wherever the organ of Veneration exists, there is found a sentiment of piety; wherever it is wanting, there is none. Hence, throughout the human family, where the development of the brain is not idiotically defective, a sentiment of veneration for a God of some kind, is as natural and universal, as the love of offspring, or sexual attachment.

A few words more on the condition and character of the idiot. We have asserted, that he cannot be disciplined in morality or religion, and assigned the reason. His brain is defective. Dissection proves it so. He possesses only the knowing compartment in partial and slight development, and the animal compartment often very fully developed. Hence his proneness to animal indulgences of the worst and most debasing kind, is frequently uncontrollable. His brain is unbalanced, from a want of both the moral and reflecting organs, which alone can hold the animal in check. The knowing compartment, as far as it extends, only ministers to the gratification of the animal, by aiding its cunning, and supplying it with means*.

A human being largely developed in the animal and knowing,

* An entire want of certain organs is, as here stated, one cause of idiocy. Another is the mal-organization of portions of the brain, or of the whole of it, as in cases of inordinately large and deformed heads. Wrong organization is as bad as deficiency.

and entirely wanting, or even greatly defective, in the two other compartments, would be a monument of profligacy and vice, utterly beyond the hope of reform. Such, as the figures of their heads demonstrate, were the brutal developments of Caligula, Caracalla, Nero, Vitellius, and Domitian, whose names are identified with human depravity; and such the development of Alexander VI. the most blood-thirsty, treacherous, and profligate Pontiff, that ever disgraced the See of Rome. To these names might be added, were it necessary, a host of others of the same description. In fact, no instance can be cited of a human monster, instinctively delighting in cruelty and blood, and yet fully developed in the moral region of his brain. Mere animals in appetite, such beings are the same in development.

If, then, it is impracticable to bestow on idiots a moral education, on account of their defective cerebral organization, the difficulty of conferring that boon on others, will be in proportion to their approach to idiocy; in other words, in proportion to the deficiency of the moral and reflecting, and the predominancy of the animal, compartment of their brain. Hence even in boys, whose foreheads are unusually low, and the tops of their heads flat or depressed, and the base of whose brain, from ear to ear, is inordinately wide, with a very large amount of brain behind the ear, we discover a ruling propensity to vice; or, at least, to low and vulgar animal indulgences, which if not checked and changed, must terminate in vice. Such boys have the true ruffian development, and will, inevitably, become ruffians, unless preserved by dint of education. Nor is such preservation an easy task. Their ruling passion is animal, and inclines to grossness as naturally, as a ponderous body tends to the centre. Still they may be saved by moral training, provided it be commenced early, judiciously conducted, and inflexibly persevered in. But if they remain uneducated and idle, and be exposed to the influence of bad example, they are inevitably lost. Their animal habits will become, in a short time, so irrevocably confirmed, as to baffle all redeeming efforts.

It is individuals of this description, that become the most atrocious and irreclaimable malefactors. To the truth of this, jails, penitentiaries, and places of public execution for deliberate murder, and other forms of deep and daring crime, abundantly testify. Although from strong temptation, corrupting example and other powerfully seductive influences, individuals of far different developments *may* be hurried into felony, and forced to expiate their guilt on a gibbet; yet, search the records of public executions, and it will be found, that where one individual, of good moral developments, has suffered capital punishments, fifty, at least, with *ruffian heads*, have surrendered up their lives to offended justice. On the truth of this, the friends of Phrenology

might safely hazard the fate of the science. Observation confirms it.

We ourselves have never seen, either in Europe or America, a deep, deliberate, and habitual malefactor possessed of a good moral and reflecting development. Nor is there any thing either new or extraordinary in the position we are defending. On the contrary, it perfectly comports with the common sense and settled belief of the enlightened and thinking portion of the world. It is, in fact, we repeat, the result of observation, and the dictate of a ruling instinct of our nature.

Works on moral fiction are confirmatory of this. In such compositions, which, to be of any value, must be copies of life, low-bred, consummate, and habitual villains, are always represented with *ruffian heads*. And if they were not thus represented, the incorrectness of the picture would be immediately detected, and the production condemned, as false to nature. Nor would it be a less condemnatory feature in it, to portray an honourable, magnanimous, and moral hero, with any other than a lofty and expanded forehead, and a well-arched head.

The truth of these remarks is fully confirmed by the writings of Shakspeare and Sir Walter Scott. Even in the strong-lined delineations of Lord Byron, the vulgar ruffian has a vulgar head. It is to the high-bred offender, who has been seduced to vice, by deep-felt wrong, or some other powerfully corrupting influence, that he has given the aspect and bearing of nobleness; a well formed head, a lofty port, and an air of command, that awed his inferiors. And on such individuals, although crimsoned with blood, and blackened with every other species of guilt, he has always conferred an elevation of sentiment, and a loftiness of purpose and thought, corresponding exactly with their attributes of form. Witness his representations of Conrad, Lara, Manfred, Lambro, and others. In illustration of this topic, and in confirmation of our views of it, a few lines, from the Corsair, may be aptly quoted—

“ Yet Conrad was not thus by nature sent
To lead the guilty—guilt's worst instrument—
His soul was changed, before his deeds had driven
Him forth to war with man, and forfeit heaven.
Warped by the world in *disappointment's* school,
In words *too wise*, in conduct *there* a fool;
Too firm to yield, and much too proud to stoop,
Doomed by his very *virtues* for a dupe.”

In common, then, with those of every other great poet, such as Homer's portrait of Menelaus, Virgil's delineation of Æneas, Tasso's picture of Godfrey, and Milton's description of Adam, and with those of every distinguished writer of moral fiction, whether in prose or verse, the sketches of Lord Byron are

strictly phrenological, which is tantamount to calling them perfectly natural. And to that alone are they indebted for their power to charm, and their imperishable reputation. Take from them their phrenological truth, and you utterly destroy them.

As respects moral education and penitentiary discipline, then, Phrenology throws light on two points of great importance. It indicates the boys and youths that most deeply require such education, to save them from vice, and the adult convicts whose characters place them beyond its influence. Its solemn injunctions are, to discipline the former by every means that can contribute to their improvement in morality and reflection, and to protect society from the vices of the latter, by capital punishment, or imprisonment during life. And for these purposes we conscientiously believe that the truths of the science will yet be employed, by the wisdom of lawgivers, and in improved systems for the instruction of youth. And we further believe, that, when thus employed, the benefits conferred on the community by the practice, will be incalculably great, and that Phrenology will then be lauded and cherished by the wise and the virtuous, as earnestly and resolutely as it has been heretofore denounced by the prejudiced and the uninformed. We venture in addition to believe, even at the hazard of being deemed Utopian and wild in our anticipations, that the science is destined to create, in education of every description, intellectual as well as moral, a new and auspicious epoch. Our reason for this latter belief is, that education can never be efficiently conducted and brought to perfection without an accurate knowledge of the constitution of the human intellect, and that such knowledge is communicated by Phrenology alone.

We shall now attempt to make a more direct application of phrenological principles to the discipline of prisons, and to moral education generally.

(To be concluded in next Number.)

ARTICLE II.

WOMAN IN HER SOCIAL AND DOMESTIC CHARACTER. By
MRS JOHN SANDFORD. Pp. 172. 12mo. London, Longman and Co.

WE regard the great *business* of female life to be the nurture and rearing of children, and the due management of the domestic circle. These occupations are equally important to women as professions are to men. Under a proper system of education women ought to be taught every species of knowledge, and instructed in every accomplishment which may directly contribute

to the proper discharge of the duties attendant on them. At the earliest dawn of intellect and feeling, the little girl manifests this tendency of her nature. The doll is then the most absorbing object of interest that can be offered to her attention. In maturer years the mimic infant is laid aside, but the feelings which found delightful expression in the caresses bestowed on it are not extinct. The nature of the woman is the same as that of the girl; the conventional fashions of society may teach her to draw a veil over her affections; but they glow internally, and it will still be her highest gratification to give them scope in an honourable and useful field. If this be woman's nature, her education ought to bear direct reference to the cultivation and direction of it; in short, maternal and domestic duties should be held out as the leading objects of female existence, and her whole training should proceed in harmony with this great end. High physical, moral, and intellectual qualities are required for the due fulfilment of these purposes; and we have no hesitation in saying, that no occupations allotted to man afford a wider field for the exercise of the best elements of mind, than those here assigned to woman.

The *physical* condition of the mother has a powerful influence on the bodily and mental constitution of the children, and on this account she ought to be taught the best means of invigorating and preserving her own health. The temperament of the mother exerts a great and permanent influence on the qualities of the children. The different temperaments, so far as known, are described in the elementary works on Phrenology, to which we refer, remarking only, at present, that the word temperament means a constitutional quality, pervading all the organs of the body; and that the doctrine of temperament does not contradict the fact, that, *cæteris paribus*, the mental character is determined by the organs which predominate in size in the brain. David Haggart, who was executed nearly ten years ago for the murder of the jailor at Dumfries, possessed a nervous temperament, which communicated mental activity in a high degree; but his brain was chiefly developed in the animal and intellectual regions, the moral organs being relatively small, and his energy and intellect took the direction of crime;—he was a bold, dexterous, enterprising, and able criminal. If the proportion between the animal and moral organs had been reversed, he would have been a moral man of talent, and an ornament to society.

If the mother enjoy a high nervous, or sanguine, or bilious temperament, or a combination of these, along with health, activity in the children may in general be expected as a constitutional inheritance. If her temperament be lymphatic, the tendency of nature is to transmit this quality, with all its concomitant heaviness, dulness, and inertness to the offspring; and

these children are incapable, in the struggle of life, of making head against difficulties and opposition, and are generally unfortunate. One of the great causes why men of talent frequently leave no gifted posterity, is that they form alliances with women of low temperament, in whose inert systems their vivacity is extinguished; and, on the other hand, the cause why men of genius often descend from fathers in whom no trace of ethereal qualities can be discovered, is that these men were the fortunate husbands of women of high temperament and fine cerebral combinations, who transmitted these qualities to their offspring.

Fine temperament appears to be the result of climate and cultivation. The texture of the Ceylonese and Hindoo skulls is much more delicate and refined than that of the skulls of the natives of New Holland. The effects of temperament pervade all parts of the body, and hence a fine or coarse skull, or skin, is an indication that the texture of the brain and nervous system, and of the muscles, are similar. A brain of a fine texture is a finer instrument of mental manifestation than a coarse brain; and hence we find the Ceylonese distinguished by refinement, and the New Hollanders by rudeness and harshness of manners. We have heard it remarked by an acute traveller, that the lymphatic temperament, indicated by coarse fair hair, plump and inexpressive countenance, and languid eyes, with the attendant coarseness and dulness of mind, greatly predominates among the lower orders in the northern countries of Europe; while dark hair and dark eyes, or fine flaxen hair and clear vivacious blue eyes, indicative of the bilious and nervous temperaments, are much more common among the higher classes in the same regions; and that the proportions of the bilious and nervous temperaments to the lymphatic, increase as the degrees of latitude decrease.

The physical quality next in importance in a woman, viewed as a mother, is health. The human body is composed of a variety of systems of organs, each having particular functions to perform, and health is the result of the favourable action of the whole, in harmonious combination. Every organ is disposed, other circumstances being equal, to act with a degree of energy in proportion to its size; and as disease is the consequence, either of under-action or over-action of the organs, their proportion to each other in size is a point of fundamental importance in regard to health. By the appointment of a wise Providence, a female figure of the finest proportions for symmetry and beauty, graceful motion, and elegant appearance, is, *cæteris paribus*, the most favourable constituted for healthy action. If the carriage of the body be erect, and the motions be easy, light, and graceful, these are indications that the bones are solid, the muscles energetic, and that the blood is well nourished, well oxygenized, and that it circulates freely. If the counte-

nance beam with intelligence and goodness, there is a predominance of the moral and intellectual regions of the brain, and the individual, in birth and constitution, is one of nature's true nobility. Such a woman, if her intellect were instructed in the laws of physiology, so that she might deliberately maintain her high qualities unimpaired through life, would be a treasure of the highest price as a mother. Under proper instruction, she would decline alliance with any partner who could not boast of qualities suited to her own. If sickly, miserable, and immoral children were born of such parents, we conceive that there would be more plausible grounds for questioning the moral government of the world, than any that are afforded by domestic calamities occurring under the present system of neglecting all these physiological conditions in marriage.

All departures from due proportion in the size of the different organs are attended with greater or less liability to disease. If the pelvis is too small in a woman, her own life and that of her offspring will be in danger, if she shall become a mother. Women should be taught this, and those who have the misfortune to be so constituted, ought to be encouraged, as a moral and religious duty, to abstain from marriage. If the lungs be too small, indicated by a compressed chest, short collar-bones, with shoulders projecting forward, and giving roundness to the back, the blood will be imperfectly oxygenized, there will be a corresponding deficiency of vital energy, and a liability to pulmonary diseases. The tendency of nature is to transmit lungs of a similar constitution to offspring, and to perpetuate feebleness and suffering. Large lungs, on the other hand, indicated by a very full swelling chest, broad expansive shoulders, and projecting breast-bone, highly vivify the blood, and impart animal vigour to the whole frame; but if the size goes beyond that of due proportion to the other organs, they are liable to excess of action; in other words, to fever and inflammation. Instruction in the principles of physiology would induce a reasonable woman, possessing deficient lungs, to avoid all external circumstances, such as cold and damp air, midnight dancing, or sitting in crowded theatres or churches, which lower the vital energy, and impair the tone of that organ, because these are the direct excitements to disease; it would induce the lady whose lungs exceed the due proportion in size, to avoid high feeding, indolence, violent passions, and all other causes which stimulate too violently organs constitutionally prone to excessive action, and hurry them into acute disorders. Like observations are applicable to the brain, stomach, intestines, and other viscera. In accepting the addresses of a lover, a lady should avoid defects similar to her own, because children born of such unions would inherit the imperfection in an increased degree; whereas defi-

ciency and excess might to some extent counteract each other, if judiciously blended; there being always limits of imperfection in either case, which ought not to be admitted within the pale of matrimony at all.

It is generally believed, that however sound these principles may be in themselves, it is perfectly Utopian to expect that they will ever be attended to in practice. It is regarded as so delightful to form romantic attachments from pure sympathy, affection, and liking, and so inconsistent with the very nature of love to admit of the interference of reason, that all practical philosophy in such affairs must be utterly hopeless. We admit this conclusion to be just while men continue ignorant; but, as the Creator has established these laws of the human constitution, and framed the faculties of man in due relation to them, we have the fullest confidence in their being completely practical whenever the proper means shall be taken to render them so. We know already instances in which they have become practical. Let the young be taught to know the outward signs of temperament, and of large and small organs, and their effects; let them trace their actual consequences in the families with whose histories they are familiar, and they will, sooner than is generally believed, recognise the hand of God in these institutions, and to desire to yield obedience to them. It is ignorance alone which renders the principles unproductive.

If female children were taught at home by their parents, at school by their preceptors, and at church from the pulpit, that the grand object of their education is to qualify them for discharging, with fidelity and success, the duty of mothers, and that the physical and mental condition of their offspring will depend upon their own, such information as we have now been sketching would be devoured with the utmost avidity; and we have good reason for believing that it would speedily become practical.

For many years the lives of children depend almost exclusively on the care of the mother. Young women therefore ought to be taught not only how to regulate their own habits, that they may preserve their health and vigour for the benefit of their offspring, if they shall become mothers, but also how to treat children, both as physical and mental beings. This information would be attended with great advantages whether they were subsequently married or not. The very study of the structure, functions, and proper treatment, of human beings, with the view of exercising kindly affection towards them, would be delightful in itself; and the young students, if they did not become mothers, would, at least, be sisters, aunts, or friends, and could never want opportunities for the practice of their knowledge. Information of this description is not neglected by wo-

men with impunity. In London nearly one-half, and in the country one-fourth, of all the children born, die within the first two years. There is no example among the more perfect of the lower animals of such a vast mortality of their young, where external violence is withheld; so that woman, with reason, and morality, and religion, as her gifts, makes a poor figure in her maternal character, contrasted with the inferior creatures acting under the guidance of pure instinct. Much of this mortality arises from imperfect health in the parents themselves, so that the children are born with only a feeble embryo of life; but much is also directly owing to injudicious treatment after birth. "Ignorance and mismanagement," says the Westminster Review, "are often fatal to the children of the rich. The visible effects of cold are seldom instantaneous. It produces its morbid changes on the constitution insidiously and slowly; and when, for the first time they become apparent, they are often beyond the reach of any remedy. And the only true remedy is precaution; *that* is always safe, and might almost always be certain. Warm clothing, and a moderately warm apartment, comprehend the two points which it is essential to observe. During intense cold, a young infant ought never to be carried into the air. When imprudently exposed, death sometimes seizes upon a child. In cases of this kind, the death is ascribed to convulsions, or to some imaginary cause, which the medical nurse teaches the female nurse to repeat. Unless we would cut it off in its childhood, or sow in an early age the seeds of disease which will ultimately prove mortal, a child must uniformly be kept in a moderately warm temperature. On the change of season,—as soon as autumn approaches, before winter comes,—every one should adopt a clothing warm in proportion to the cold that may set in. The common practice of postponing this change, with a view of hardening the constitution, is highly dangerous. Many a youth has never lived to see manhood, because he would reserve warm clothing for his old age. It seems to be a fancy prevalent among young people, that it does not become them to wear warm clothing in cold weather. Various diseases that cut life short are the constant fruits of their folly; and in the female especially, in whom the skin is so much more vascular, delicate, and sensitive; whose circulation partakes so much more of the external character,—who is therefore so much more sensible to cold, and so much less capable of resisting it, all these precautions are necessary in a tenfold degree. Yet, it is the custom among women, to clothe themselves warmly during the morning and the day, and at night to put on a dress thinner and lighter, to expose the neck, the bosom, and the arms; and then we wonder that they are feeble and delicate, that is, diseased; and that the beautiful especially, in whom the skin is

always exquisitely vascular, so often become the prey of consumption."—No. 31. p. 197.

One important branch of female instruction, therefore, ought to be the treatment of children as physical beings. Lectures should be instituted to communicate this information, and the basis of it ought to be anatomy and physiology. The minutiae of these sciences need not be treated of, but all the leading organs and their uses should be explained. It is a great error to suppose that this study is necessarily shocking and indelicate. It is so only in the eyes of ignorance and prejudice. The Creator has taught the inferior creatures to rear their young successfully by instinct; but he has not conferred this guide on the human mother. One of two conclusions, therefore, appears to follow. He has intended either that she should use her faculties of observation and reflection in acquiring all the knowledge requisite for the proper treatment of offspring, or that she should recklessly allow a large proportion of them to perish. One or other of these conclusions is really inevitable; because, as He has denied her instinct, and as she cannot obtain knowledge to supply its place, without application of her intellect to study the laws of nature, which instinct prompts the lower creatures to obey without knowing them, the Creator must have intended either that she *should* study these laws, or give up her offspring in vast numbers to destruction. The latter result actually happens to the enormous extent just mentioned; and, if it be the necessary consequence of the Creator's gift of reason, in place of instinct, to women, we are silent, and submit to condemnation; but if it be the natural effect of their not having employed that reason in a proper direction, we say that He has commanded them to study his works. If this conclusion be just, we may rest assured that they may safely, and in perfect consistency with feminine delicacy, study the Creator's designs, his power, and his goodness, in the structure, functions, and adaptations of the human body, and that they will not find their higher faculties outraged, but exalted and refined, by the knowledge which will thus be revealed. It may be imagined that rules for the preservation of health may be taught without anatomy being studied; but all such instruction is empirical. The authority of any rule of health is the fact, that Nature is constituted in such and such a manner, and will act in her own way whether attended to or not, for good if obeyed, and for evil if opposed. This authority is rarely comprehended without instruction concerning the foundation on which it rests. The rule otherwise resides in the memory rather than in the understanding; and the possessor has no power of modifying her conduct, and adapting it judiciously to new circumstances. She knows the rule only, and is at a loss whenever any exception, or new com-

bination not included in it, presents itself. The Professor of Scots Law most acutely and judiciously directed his students, when reading about the law of title-deeds, to take the parchments themselves into their hands, and to look at them, assuring them, that familiarity with their mere physical appearance would aid the memory and judgment in becoming acquainted with the doctrines relative to their effects. Philosophy and experience equally confirm the soundness of this observation; and it applies, in an especial manner, to rules relative to health. When a good dissection of the heart and lungs have been exhibited to a young woman, she understands much better, feels more deeply, and remembers much longer and more clearly, the dangerous consequences of exposing the throat and breast to a stream of cold air, or to a sudden change of temperature, than when she has only heard or read precepts to avoid these and similar practical errors. In the former case Caution and Veneration are reinforced by the dictates of intellect; whereas, in the latter, the feelings alone are left to direct the conduct.

Another leading branch of female education ought to be that kind of knowledge which will fit a woman to direct successfully the moral and intellectual culture of her children: this embraces a vast field of useful and interesting information. If we should ask any mother, who has not studied Phrenology, to write out a catalogue of the desires, emotions, and intellectual powers which she conceives her children to be endowed with; to describe the particular objects of each faculty; its proper sphere of action; the abuses into which it is most prone to fall; and also the best method of directing each to its legitimate objects, within its just sphere, so as best to avoid hurtful aberrations, we know well that she could not execute such a task. We entreat any sensible woman, into whose hands this article may fall, who has a family, and who has derived no aid from Phrenology, to make the experiment, for her own satisfaction at least, if not for our gratification. She will discover in her own mind a vast field of ignorance, of which, before making the trial, she could not have conjectured the extent. We have space only to say, that we regard the earnest and practical study of Phrenology, or, in other words, of the primitive faculties and their scope of action, as an indispensable step towards education. There are few mothers who do not sometimes discover wayward feelings, particular biases, or alarming tendencies, breaking out in their children, when they least expect them; and we refer to their own consciousness, whether they have not in alarm and bewilderment wondered what these could be, and lamented their own inability to comprehend or to guide them. Mothers, who have experienced this darkness, and have subsequently studied Phrenology, have appreciated the value and importance of the light

which it shed on their practical duties. We are not pleading the cause of this science for the sake of making proselytes. Our proposition is general, that a mother cannot train faculties without knowing their nature, objects, and sphere of activity; and if any woman can find practical information on these points without the aid of Phrenology, we recommend earnestly to her to seek it out and adopt it.

Let us now suppose a mother to be instructed concerning the physical constitution and mental faculties of her children, she will next require to become acquainted with the objects in the external world to which these faculties are related. We are told that it is a delightful task to "teach the young idea how to shoot," but the power of doing so implies in the teacher some knowledge of the direction in which it will shoot most successfully, and of the objects to which it is related; in other words, acquaintance with the external world, so far as it is calculated to excite the moral sentiments and intellect of the child, and operate on the happiness of the future man or woman. In female education the communication of this information is deplorably neglected. It implies the study of the elements of botany, chemistry, natural history, and natural philosophy, in addition to anatomy and physiology, as well as familiar acquaintanceship with the social institutions of our own country, and the civil history of nations. It is true that the mother exerts a powerful and permanent influence on the character of her children, in making the deepest impressions; and supplying the earliest ideas that enter their minds; and it is of the utmost importance to society at large, that she should be well qualified for so important a duty. Children who are not gifted with originating powers of mind, which is the case with nineteen out of twenty of all who grow up, reflect absolutely the impressions and ideas which their mothers, nurses, companions, teachers, and books infused into them in youth, and of these the authority of the mother is not the least. Let women reflect, therefore, that they may sow the seeds of superstition, prejudice, error, and baneful prepossession; or of piety, universal charity, sound sense, philosophical perception, and true knowledge, according to the state of their own attainments; and let them also ponder well the fact, that the more thoroughly destitute they are of all sound information, and of all rational views of mind and its objects, the less they are aware of their deficiencies and of the evils which their ignorance is inflicting on another generation.

This is a long preface to our notice of the able work which forms the title of this article, but we were anxious to lay a foundation for our subsequent remarks. Mrs Sandford appears to be a lady of high talent, and of some experience. She is a spirited and eloquent author, and affords a fair specimen of what talent and

unaided by philosophical principles,

can accomplish, in treating of, "woman in her social and domestic character." She appears to have heard, but not to be aware of the value, of Phrenology. This may be no fault in her; but she cannot complain of us, if we use it in our analysis of her observations.

In judging of a didactic work, we consider whether it professes to teach principles or practical rules. If principles be its object, we inquire from what source they have been derived. There is only one system of mental philosophy from which rational principles of conduct and education can be drawn; Mrs Sandford does not appear to be acquainted with it; and her work, therefore, does not pretend to deal with the philosophy of woman. If the aim of an author be the communication of practical precepts, we expect to be told what actions are proper to be performed, and how to execute them; also from what actions we ought to abstain. But Mrs Sandford's book is not precisely a practical treatise either, for it does not pursue those objects in any direct and systematic manner. It bears nearly the same relation to practical conduct, that Sir Walter Scott's splendid description of the Vale of Tay, in the *Fair Maid of Perth*, does to the art of landscape-painting. Having observed a variety of women, of strong and picturesque characters, she appears to have generalized their several qualities, and written piquant descriptions of them as attributes of the sex. Almost every word she writes will be found correct, if applied to a certain individual woman, or to a small class of women; but many of her observations are not at all applicable to the great majority of females. We do not blame her for this; because, without a sound system of mental philosophy, she could write only in one of two ways,—either generalize from a few examples, which she appears to have done,—or describe minutely individual characters, and point out their endowments and defects for imitation or avoidance.

The first and second chapters treat of the causes of female influence. "The romantic passion, which once almost deified woman, is on the decline; and it is by intrinsic qualities that she must now inspire respect. There is less of enthusiasm entertained for her, but the regard is more rational, and, perhaps, equally sincere; since it is in relation to happiness that she is principally appreciated, domestic comfort is the chief source of her influence."—"Where want of congeniality impairs domestic comfort, the fault is generally chargeable to the female side; for it is for woman, not for man, to make the sacrifice, especially in indifferent matters." This is excellent doctrine for our sex, and it is correct in many instances; but the proposition is too generally stated to be useful. We scarcely know an instance in which a husband, possessing that force of character and weight of intellect which are regarded as the attributes of his sex, com-

bined with affection, does not find his wife devotedly disposed to make sacrifices of her own interest and comfort to his gratification, not only in "indifferent matters," but in affairs of the most momentous magnitude; indeed, women in general are too plastic, rather than too anyielding, to such men. But if a husband be shallow in intellect, conceited of his own attainments, captious, and ill-tempered, and require submission, on all occasions, from his wife, she has a difficult part to play: If she resemble himself, sense and morality will be wanting on her part to enable her to yield; while, if she possess superior qualities, she must either guide her husband by means of them, which is not submission, or she must often sacrifice the dictates of duty and propriety to his perverse dispositions, which will become more difficult in proportion to her superiority. Practical instruction how a woman should act in such cases would be invaluable; but Mrs Sandford does not touch so closely on real life.

The chief causes of female influence are said to be "congeniality," delicacy, accomplishment, a feeling of dependence on man as her superior, gentleness, elegance, and religion. "Elegance is poetry in action—Imagination may paint the heroine deficient in beauty, but never in elegance." It is this which diffuses, as it were, a halo round woman; which invests her with a romantic charm; and which more, perhaps, than any other attraction, renders her an object of interest. Yet it is grace, not affected, but natural, grace which tinges every thought, breathes in every expression, and regulates every movement,—which adorns the hearth, as much as the drawing-room, and which is habitual, because it is innate." These observations are unquestionably just, and they are beautifully expressed; but they afford one out of many examples contained in the work, of the attributes of a small class of women being set down as qualities attainable by the sex in general. Elegance such as this is most properly said to be innate. The elements of which it is composed are,—a beautiful figure; a nervous and sanguine, or nervous and bilious temperament, giving strength and vivacity to the frame; an exquisitely harmonious combination of the animal, moral, and intellectual faculties, the last two greatly predominating, and the whole improved by high cultivation. When these conditions are realised in a woman, she indeed exhibits a "grace which tinges every thought, breathes in every expression, and regulates every movement;"—but how rarely are so many splendid qualities combined in one individual! This exquisite elegance is never attainable, unless its grand elements are given by nature; but there is a quality, which we believe the author meant to describe, which is akin to it, and is more within the reach of ordinary mortals. The elements of almost every character admit of harmonious action; and the out-

ward expression of that harmony is grace. A woman may be plain in her personal appearance, destitute of poetical and romantic feeling, and only moderately intellectual, and nevertheless be graceful and pleasing. Her secret is to pretend to no higher powers of attraction than Nature has given her; to cultivate assiduously her moral and affectionate feelings, and to give these free scope on all proper occasions, without being concerned about effect. "Man is very accessible to the graceful and beautiful; and however engrossed by higher pursuits, he seeks in the society of women relaxation and refreshment. He wishes to find her the enlivener and sweetener of his leisure, as well as the sharer of his cares."—"Religion, far from disparaging elegance, gives new motives for its cultivation."

Chapter III. treats of "the value of Letters to Women." We regret to remark, that this very gifted lady has not yet discovered the distinction between "letters" and practical knowledge. She says, "there is no possession of which men are so tenacious as that of learning. Perhaps it is because knowledge is power; that they are, therefore, not disposed to share it with women; or perhaps it is because, instead of improving it to good purpose, she sometimes only uses it as a plea for assumption. It is to be feared that their reluctance is to be ascribed principally to the latter cause; for it must be allowed, that literary ladies have not been always very prepossessing." We thank the author for so much modesty on her part, and so much favour to the tyrant sex; but we respectfully assure her that Greek and Latin are not that kind of knowledge which constitutes power, in relation to any useful purpose; and that it is the pure force of humanity that has induced Christian men to absolve women from the odious and unprofitable tasks which they impose on themselves in name of learning. A woman who desires instruction to enable her profitably to discharge her duties as a daughter, sister, wife, or mother, loses extremely little in not being condemned to years of drudgery in studying the dead languages and classical literature. Men, in general, possess no knowledge, withheld from women, except Greek and Latin, and the sciences necessary for their professions. A merchant, or country gentleman, after he has forgotten "*Quæ manibus solum tribuuntur, mascula sunt,*" and the concomitant exercises in Greek syntax, which were beaten into him from eight to fourteen years of age, and of which he disburdens his memory as speedily as possible, is not a jot better informed, by his education, than his sister or his wife, who has learned to read, write, cast accounts, translate French, draw, play on the piano-forte, and use the globes. A really useful and practical education is still as much a desideratum to men as to women. A husband who knows Greek, may make his wife believe that he is prodigiously learned, and draw from her a superstitious veneration

on this account; but if the lady will read attentively a good English translation of any of his favourite classical authors, and then try him on the *ideas* which they contain, we promise, beforehand, that she shall beat him. His intellect is too severely tasked in deciphering the words, to be able to give much attention to the sense; and, in this point, all the advantages will lie on her side. Mrs Sandford, however, admires the youth labouring through a difficult ancient author, by the midnight lamp, and the dictionary; she deprecates interlineary translations; speaks eloquently of the "glories of scholarship;" and complains of learning being made too easy to women, whence, says she, in some degree arises the superficial nature of their attainments. Such notions indicate that the author is not advancing with her age. If she possessed a correct view of the elementary faculties of the human mind, and their sphere of useful action, her acute intellect would place her far above such scholastic prejudices as these.

The following observations are excellent: "Knowledge should be appreciated for its own sake, and not merely as a distinction. The superiority of cultivated women is, in every thing, very apparent. They have been accustomed to think and to discriminate, and their opinion is not a mere momentary impulse. Their sphere, too, is enlarged—they are not so much actuated by selfish feelings, or so liable to receive partial, and consequently erroneous, impressions."—"What an easy dupe to empiricism or design is a half educated woman! With sufficient acquirements to be vain, and sufficient sensibility to be soon imposed on, she may be easily seduced from principles which she has received only on the authority of others, and which she is, therefore, ill prepared to defend."—"Disorder," she remarks, "is the accident, not the consequence, of talent; and, as it is the more conspicuous, so it is the less excused, when accompanied with mental superiority." We never knew disorder concomitant with *general* mental superiority in any woman. It is a common accompaniment of *partial* talent, combined with marked deficiency in some important faculties. It proceeds, not from those powers which are highly possessed, but from mental weakness originating in faculties that are deficient. It ought not for a moment to be complacently excused as the consequence of genius, but invariably exposed as the result of imperfection. This is the simple fact, and the knowledge of it would lead to sincere efforts at supplying deficiencies, instead of glorying in them as indications of natural superiority.

Religion is the subject of Chapters IV. and V., and many of the observations shew great acuteness, joined with an excellent spirit in the author. "Religion is the source of all of woman's virtues. It inspires the minor, as well as the more important graces."—"Men are often religious by proxy; they reverse

their ordinary privilege, and commit to female representatives their business in the House of God"—“Yet, even all this proves the universal impression in favour of female piety; and it is as congenial to her pursuits as to her character. It gives interest to her duties, and solace to her retirement.”

“There is a great difference between being religious and affecting the theologian. Yet those are too often confounded; and women, who, perhaps, are not remarkable for intellectual endowment, imagine that because they are earnest about spiritual concerns, they are qualified to enter the thorny path of controversy. This, however, is a great mistake. Not only is controversy, for the most part, unedifying, and very inappropriate to the gentler sex, but it often diverts them from profitable contemplation, and important duties. Besides, it is apt to make them opinionative and dogmatical, and to lead them to throw their influence rather into the scale of party, than into that of true religion.”—“Do we not sometimes see even young women arrogating to themselves the right, not merely of private judgment, but of dictation—descanting on the conflicting questions which agitate the religious world, or announcing with unhesitating confidence some new conceit, to which the captire or ignorance of modern empiricism has given birth? And at length, do we not see them become the tools of some interested fanatic, or the disciples of some scarcely less culpable, though more honest zealot, to whose keeping they have delivered their consciences, whose varying opinions they are pledged to adopt and support, and whom they credulously and emulously follow through all the phases of his eccentric orbit?”—“They wander from house to house, retailing the spiritual errors of the day, feeling the religious pulse, dispensing prescriptions, and giving notoriety, at least, to every new nostrum which they would impose on the credulity of weak and wayward Christians. And if they are but ill received by the vigorous and healthy, they are yet too acceptable to the valetudinarian; and going about with their little casket of specifics, they excite and foster the diseases they affect to cure.”—“They are ready to welcome every new and erroneous doctrine. They will hunt it out from obscurity,—they will pursue it to the remote conventicle,—and for its sake they will leave the guide of their former selection; to follow some unknown teacher, some untaught and bold adventurer, to whom they ascribe gifts little short of inspiration, and almost an exclusive knowledge of divine truth. These persons are, indeed, far from right. They may have mistaken the way from the very first;—they may have confounded error with truth, and fanaticism with piety. Or, if they once were in a healthy state, they have contracted disease. Theirs is a slow fever, which preys upon the vitals of true religion, and the only that we can hope from them is, that they may recover from

malady, for their meagre system is not the Gospel,—their rapturous effusions are not the breathings of the Divine Spirit,—their circumscribed clan is not the one true and Catholic Church. They have wandered altogether from the right fold, and it is the voice of truth that can alone bring them back.”

These observations appear to be elicited by certain recent circumstances in the religious world, and they are just when viewed in the light of a reproof; but they do not at all touch on the root of the evil. There is a wide separation between religion and philosophy, which we never cease to lament, in consequence of which even that religion which Mrs. Sandford would approve of, consists in feeling, and impression, and belief, in certain points of faith, much more than in the knowledge of the Creator's laws and institutions in the moral and physical worlds, and a profound veneration for the character of God as manifested in them and in Revelation, which are both records of his Will. One consequence of this state of religion is, that there is no sheet-anchor in reason to serve as a check on excitement. A foundation laid in feeling is ever insecure, because, if it fall too low, coldness and indifference ensue; if carried too high, wild enthusiasm carries off the devotee. We sincerely believe that a sound education in the laws of the moral and physical creation, as developed to the eye of reason, combined with the due exercise of the religious feelings under the guidance of Revelation, will afford the best protection against the errors here so eloquently reproofed.

There are two chapters on “Female Defects,” but our fair readers need not be alarmed, for Mrs. Sandford is merciful as well as just;—“Want of judgment is, indeed, one of the most common defects in female character; and it is in discernment, rather than in capacity, that the inferiority of woman consists.” “Though there are instances of female superiority, greatness is not the characteristic of the sex. On the contrary, it is to be feared, that littleness of mind is rather their peculiarity,—and it is one which the habits of many women do not tend to correct. They are busied about little things, vexed by little cares, anxious about little occurrences.” According to our observations, the female brain is less in size than the male, and hence the female character is inferior in general depth and power. The organs devoted to the manifestation of feeling are larger in proportion to the organs of intellect in the female than in the male brain; and hence women in general have more affection and sympathy, and less vigour of intellect, than men. Their temperament, however, is generally finer, and their sensibilities and perceptions are more acute, and more delicate than in males. These modifications fit them for their situation, and, viewed in relation to it, we do not consider them as generally deficient in judgment, or feeble in character, except when injured by a bad

education, or left in ignorance through want of education altogether.

Chapter VIII. treats of "Female Romance." We are informed, that "most women are romantic;" and that this feeling "is not confined to the young or to the beautiful; to the intellectual or to the refined; but that every woman capable of strong feeling, is susceptible of romance."—"Romance is, indeed, the charm of female character. Without it no woman can be interesting; and though its excess is a weakness, and one which receives but little indulgence, there is nothing truly generous or disinterested, which does not imply its existence."—This is so beautiful and so romantic, that we regret that it is not true to nature. In this instance Mrs Sandford certainly has had an individual character before her mind, and ascribed its qualities to her sex. We turned up Johnson's Dictionary to discover whether there was any meaning of the word *romantic* with which we were unacquainted, and in which she might have used it; but we found the definition to be "wild, improbable, fanciful; false," so that we are reluctantly constrained to put a negative on this announcement. Her error, however, lies chiefly in an incorrect use of the term. Strong feeling is not necessarily romantic; on the contrary, it is frequently by far too directly related to an ordinary object, and too serious to admit of a particle of romance mingling with it. The love of children, an affectionate devotion to a husband, an energetic benevolence, causing the countenance to radiate with goodness and the sincerest piety, may all glow in a mind which is a stranger to romantic emotion. These feelings become romantic only when Ideality and Wonder, or the poetical emotions, are combined with them. These heighten their intensity, and add to the interest which they excite in cultivated and poetical minds; but are not in the least essential to their active existence. Indeed, unless strong judgment go along with the romantic feeling, it is more apt to render its possessors imaginative and fantastical, than "truly generous and disinterested." This explanation is due to our fair friends who are only practically good, without being romantically amiable.

There is a good chapter on "Female Education," in which the author appears to us to have derived her most valuable information from experience. It is superior in soundness to several of her other Essays. "However contrary to the theory of some," she observes, "it is very evident that there is an innate moral and intellectual bias, which contributes greatly to the formation of individual character. It is in the mind as in the body; there is a peculiarity in each, which no training can take away, which is observable, not only in those pre-eminently distinguished, but in all. For all have their peculiar aspect, as well as their general resemblance; and we need not be indebted

to physiognomical or phrenological science for a truth which experience and observation sufficiently discover. It is, perhaps, one of the faults of modern education, and especially of that of women, that this difference is sometimes overlooked. There are now a system and a routine, to which every girl must be subjected."—"It would be far more wise to study the peculiarities of temper and talent, and to adapt one accordingly."—"Adaptation is, indeed, the great secret in education,—adaptation to circumstance as well as to character, and, one might almost say, to inclination as well as to ability." We agree with all these remarks: If, however, we understand what Phrenology professes to accomplish, it is not to establish as new doctrine, the mere existence of mental differences, but to furnish means, by which the natural qualities of each individual may be discovered, so as to render practical the "adaptation" which the author recommends. Mrs Sandford gives ample proofs in this volume that she has no precise knowledge of the elementary faculties of mind, and of the effects of their combinations in different degrees of power; and, judging from her work, we are persuaded that she could not carry into full effect her own precepts on education. Nevertheless, she is a lady of great talent and acute observation; and we cite her shortcomings merely as an example, showing how inadequate the greatest natural abilities are to reach true and precise results, when not guided by scientific knowledge and consistent rules.

The concluding chapter is on "Female Duties." "Christianity is practical throughout; it is so in its religious as well as in its moral obligations."—"Yet the fault of the religion of ordinary persons is its insincerity. Not that they are intentionally disingenuous; but they admit a casuistry in religion which they would not tolerate in any thing else."

"To acquire and retain influence, the lady must make her conjugal duties her first object. She must not think that any thing will do for her husband,—that any room is good enough for her husband,—that it is not worth while to be agreeable, when there is only her husband,—that she may close her piano, or lay aside her brush, for why should she play or paint merely to amuse her husband? No! She must consider all those little arts of pleasing, chiefly valuable on his account,—as means of perpetuating her attractions, and giving permanence to his affections."

These observations also appear so amiable, that we regret the necessity of refuting them, but they do not apply to cases that actually occur. Let us suppose the wife to be a woman of a really cultivated taste, fond of order and elegance in her household, and possessed of talents for music and drawing. If the husband possess congenial qualities, far from refusing to display her accomplishments to gratify him, she will practise them

first to please herself; and, secondly, to enjoy his approbation, which will redouble her enjoyment. If, on the other hand, the husband has no taste for the fine arts, for music, or elegant arrangement, he will not be prone to trouble his wife to display such qualities for his gratification, because they will yield him no pleasure. If the wife herself have none of these talents, it will not enter the imagination of any reasonable man to ask her to practise them, because her imperfect attempts will afford no one any satisfaction. In short the whole suppositions appear to us to be out of nature.

The length of this notice is a proof that we entertain a sincere respect for the talents and amiable qualities of Mrs Sandford. In point of composition, her work challenges comparison with the best modern publications. Her style is vivacious, clear, pointed, and often brilliant;—every sentence might, with advantage, be presented by itself as a quotation. We conclude with the following exquisite morceau :—“What but love can dictate the amenities so essential to domestic happiness,—can excuse mutual faults,—can drive away dulness, and give interest to duty,—can lighten every burden, and enhance every pleasure,—can sweeten every thing bitter, and render more grateful every thing sweet? Love is, indeed, the golden thread which imparts richness and value to the coarsest woof,—and happier, far happier, are they who, with love in their hearts, encounter many a shock, and cope with many a struggle, than they who, soured by natural disesteem, find even their luxurious indolence fatiguing, and their costly pleasures disappointing and tasteless.”

There is great truth and beauty in this picture of conjugal felicity.

ARTICLE III.

CRUELTY TO ANIMALS.—SIR WILLIAM HAMILTON'S EXPERIMENTS.

As some portion of the press continues to charge phrenologists with the “atrocity” of mutilating animals in order to discover the functions of their brains, we are reluctantly compelled to revert to the subject. In January 1832, a letter signed Phrenologus appeared in the Caledonian Mercury, in answer to some remarks made by the editor of that paper against the editor of this Journal, for inserting the detail of Bouillaud's experiments, on account of their cruelty. This letter contained a

paragraph in relation to Sir William Hamilton's recent experiments, which produced the following epistle from him. The italics appear in the original.

‘ CRUELTY TO ANIMALS.—PHRENOLOGY.

‘ TO THE EDITOR OF THE CALLEDONIAN MERCURY.

‘ SIR,

‘ In a letter, signed ‘ PHRENOLOGUS,’ in your paper of yesterday, there is an allusion to me, the disingenuous malevolence of which I feel myself bound to expose. The letter is written in extenuation of certain inhuman experiments by one, now of the sect, which had been justly characterized as *atrocious*—and the following passage is intended to divide, at least, the public odium between the dupes and deriders of the phrenological delusion.

‘ You will find, in Dr. Monro’s work on the Brain, just published, a variety of experiments on hares and rabbits, performed by Sir William Hamilton, from which he draws conclusions adverse to Phrenology, which Dr. Monro does not denounce as ‘ atrocious.’ I call on the press to do even-handed justice on Sir William as on Bouilland.’

“ Now, in making such a reference on such an occasion, any other than a phrenologist—that is, *one who can always suit the statement of the facts to the interest of his hypothesis*—would have felt himself bound in *truth and justice* to have added, that Dr. Monro could not ‘ denounce’ my experiments as ‘ atrocious,’ seeing that Dr. Monro expressly states (and all that Phrenologus knows of them is from his note), that the condition under which my experiments were performed, was, *that they were not cruel, occasioning no pain beyond a slight momentary smart.* But this *statement of the fact* would have been subversive of the very end for which reference to me and my experiments was made at all; *therefore it was concealed—therefore the very reverse of the truth was assumed.*—I remain, Sir, your most obedient servant,

“ W. HAMILTON.

“ MANOR PLACE, 6th Jan.”

We request the reader, in the first place, to observe the philosophical and gentlemanly style of this letter! So indignant is the learned professor at being supposed capable of cruelty to the animals which he made the subject of his experiments, that he entirely loses his temper; and, not contented with asserting that his experiments were “ not cruel,” roundly denounces all Phrenologists as utterly regardless of truth on the subject of their science. Much as we are accustomed to Sir William Hamilton’s heat

of temper and talents for perversion, we confess that we were astonished at the terms of this epistle to the Editor of the *Mercury*. The phrenologist, he says, "*is one who can always suit the statement of the facts to the interest of his hypothesis.*" If we wanted terms most faithfully to describe Sir William himself, he has here furnished them.

Let the reader next peruse the following note which appears on pages 15, 16, and 17 of the Introduction to Dr. Monro's "*Anatomy of the Brain*," recently published, in which Sir William's experiments are detailed, and then judge for himself, whether PHRENOLOGUS is to be held as guilty of "disingenuous malevolence," because he did not announce that Dr. Monro had *Sir William's assurance* that the experiments were "*not cruel*;" as if Sir William could escape from the charge of cruelty, merely by having expressed such an opinion to Dr. Monro; for the Doctor gives no opinion of his own.

"Above two years ago," says Dr. Monro, "I saw, in the garden of Sir William Hamilton, several young rabbits and chickens, to all appearance in the most perfect health, through whose brains and cerebella wires, small skenes of thread, &c. had at different times been passed in various directions; and Sir William assured me (what was indeed the condition of his experiments) that the animals do not seem to suffer pain at the time the needles, &c. are passed, with exception of the slight smart in puncturing the integuments." The brain has been long known to be wholly insensible. His experiments, he tells me, prove, that if the great bloodvessels are avoided, and a perforating instrument of too great a diameter be not employed, the brain (basilar no less than coronal region), nay, what is still more remarkable, the cerebellum may, without pain, or inflammation, or ramollissement, and, with exception of a very limited focus, without apparent injury to the vital functions, be almost literally made a pin-cushion. Though not a medical man, Sir William thinks, that if the cerebral non-irritability of the smaller animals holds good in man, which we have little reason to doubt, and if the larger caliber of his bloodvessels do not oppose an impediment, a permanent and gradual drain, in case of hydrocephalus, may, without any danger, be obtained, by passing a canula, of a particular construction, and with lateral perforations, through the ventricles. By this means, in *acute* hydrocephalus, the sudden pressure of the water, which is probably in most cases the proximate cause of death, would be taken off, and time allowed for the morbid diathesis, or the obstruction, to abate; in *chronic* cases, the farther accumulation of fluid would be prevented, and, by the gradual evacuation of that already collected, which could easily be regulated, combined perhaps with gentle pressure, the brain and cranium might be safely restored to their natural relations. To pass a wire, correspond-

ing to such a canula, from side to side, through the middle or lower part of the ventricles, he found to be an operation absolutely of *no danger whatever* in the smaller animals—as yet, he has tried it in none larger than the cat. In the substance of the brain the foreign body is in a few days surrounded by a toughish sheath of coagulable lymph; adhesion of this to a wire or canula is prevented by occasionally turning them. In a great many experiments (without a single accident) Sir William never found that such a perforation produced any apparent effect; and several animals (quadrupeds and birds), continued to exhibit for years the highest health and vigour, with all their instincts, whose heads were transfixed by sundry substances in this and other directions.”

We have two preliminary remarks to offer in regard to this note. First, As Dr Monroe's object is to report what Sir William Hamilton *told him*, and as the two professors live in the same city, and are in habits of intimate communication, we consider ourselves warranted in assuming that Dr Monroe's narrative *correctly* represents the facts; in other words, that the note itself was submitted to, and its terms adjusted by Sir William, before publication. Secondly, When the Doctor informs us, that Sir William's *experiments prove* that certain things *may be done*, we understand this to mean that Sir William did them; for, *proving by experiments*, is just reporting the *result* of experiments *actually performed*. Well, then, Dr Monroe informs us, that Sir William “at different times,” passed, “in various directions” “wires, small skepes of thread,” &c., “through the brains and cerebella” “of several young rabbits and chickens;” he made the “cerebellum” “almost literally a pin-cushion;” he transfixed the heads of several “quadrupeds and birds” “by sundry substances in this and other directions,” and he “occasionally *turned*” the wires to prevent them being “in a few days surrounded by a toughish sheath of coagulable lymph;” and with this tissue of barbarities staring him in the face, he, in a fit of blind and insensate indignation, wrote to the Editor of the Mercury, that the experiments “were not cruel, occasioning no pain beyond a slight momentary smart,” and accused the Phrenologist of “disingenuous malevolence,” in referring to him and his experiments at all! This is the very *beau ideal* of suiting “the statement of facts to the interest of his hypothesis;” for the facts themselves stand forth in irresistible condemnation of the “statement.” They bear intrinsic evidence of cruelty, and there is nothing but, “the statement,” the naked assertion of the belief of the perpetrator to the contrary, to counter-vail the appalling testimony of nature. And yet Sir William charges “disingenuous malevolence” on the Phrenologist who referred to his experiments, and “concealed” the fact that he had assured Dr Monroe that “they were not

cruel !” Any man who could believe that they were not cruel, must have been as blind to the laws of organized nature as Sir William himself appears to be : Dr Monro does not vouch for the credibility of this part of Sir William’s story. He makes Sir William warrant his own narrative in this particular. Dr Monro says, “ Sir William *assured me* (what was indeed the condition of his experiments) that the animals *do not seem* to suffer pain *at the time* the needles, &c. are passed, with the exception of the slight smart in puncturing the integuments.” There is more suiting of the words here to the obscurity of the fact, than meets the eye. It is not said that the animals *did not* feel pain, they only “*seemed*” not to suffer. But there may be various reasons why they “*did not seem* to suffer pain,” and yet the charge of cruelty may come home irresistibly to the experimenter. They may have been rendered utterly insensible by the severity of the shock at the moment when their brains were transfixed ; and thus, through obliteration of all sensibility, “*have felt no pain after the slight momentary smart*,” when the wires penetrated through the integuments ; and this is one hypothesis by which we can reconcile the “*fact*,” and the “*statement* ;” or, from some cause or other, Sir William may have been incapable at the time of discerning their agonies, and their feelings may have “*seemed*” to him the opposite of what they really were ; or he may have mistaken their convulsions for sportive frolic, in consequence of which error, they might have “*seemed*” to him even to enjoy his operations. If the quadruped whose cerebellum was “*almost literally*” converted into Sir William Hamilton’s “*pin-cushion*” could speak, we do not believe that it would describe its sensations in terms equally gentle with those employed by him.

But there is another loop-hole in the words—the animals did “*not seem* to suffer pain *at the time* the needles, &c. were passed ;” and, to render this credible, Dr Monro tells us that “*the brain has been long known to be wholly insensible*.” It is true that the portions of the brain which manifest mental emotions and perceptions do not execute the function of sensation ; but both Sir William Hamilton and Dr Monro know well that the brain is enveloped in membranes, and that the skull is covered with integuments, all of which are endowed more or less with sensibility ; and that when these become inflamed, which, *after the lapse of a few hours*, is the natural consequence of all severe injuries, the pain to which they give rise is intense. It might be possible that a quadruped, *at the very moment* when its brain was transfixed by a wire or “*other substance*,” if it was not rendered entirely insensible, might feel only the smart, as Sir William calls it, attendant on penetrating the integuments and membranes ; and yet, that, in a short time after, inflammation, with extreme agony, might follow ; nevertheless, the words of

the note, by limiting the statement in point of time, exclude this natural occurrence. Was there no "suiting the *statement* of the facts to the interest of *his* hypothesis," when the sentence was thus framed?

If Sir William believes that the animals whose cerebella he converted into "pin-cushions" did not suffer more than a slight smart, is there no "disingenuous malevolence" on his part in designating Bouillaud's experiments as "inhuman?" If the brain is insensible in Edinburgh (and Sir William affords more evidence than he is aware of, that in some cases it is so, even in the human species), it will be equally callous in Paris; and if Sir William's experiments gave only a slight smart in puncturing the integuments, how can Bouillaud be accused, by *him*, of causing severer suffering? Perhaps, however, Bouillaud was a rough practitioner, and Sir William a gentle experimenter. We give Sir William every possible advantage founded on this distinction: Bouillaud took saws and gimlets to large dogs; Sir William was more merciful, for he only passed "wires" and "skenes of thread," and "sundry substances in this and other directions," through the brains of "young rabbits and chickens." The creatures were young and tender, and therefore he used only nice little boring needles. They were not able to stand a rude shock, and therefore he only made their cerebella his "pin-cushion!" Perhaps the chickens were domestic fowls, and had heard the children singing, "Give me a pin to *stick in my thumb*," &c. and actually desired to have pins stuck in their cerebella, they having no thumbs in which to enjoy this gratification. This supposition is as much in harmony with nature, as the assertion that the operations performed by Sir William occasioned only a slight and momentary smart.

We refer to our next article, in which Mr Watson deals with the philosophical merits of Sir William's experiments; and conclude by stating, that we do not approve, and have never approved, of the mode of studying the functions of the brain by mutilation. We report and comment on experiments made with a view to ascertain the functions of the brain, because it is our duty to notice every incident connected with Phrenology; but it is absurd to accuse us either of perpetrating these experiments ourselves, or of approving of them because we report them. We quote the following observations as fundamental doctrine on the subject.

Dr Spurzheim, in his *Physiognomical System*, published in London in 1815, under the head of "Mutilations," says, "These means are not only altogether useless under such circumstances, but they can at no time serve to determine the functions of the brain; for the organs are not confined to the surface: consequently every organ ought to be cut away on both sides from the surface to the medulla oblongata, and such a wound would

kill any perfect animal. Let us, however, even suppose that the animal could survive such mutilations; how should it manifest a sensation of which it has been deprived? and how should it indicate the want of this sensation? Moreover, such operations are too violent, and the animals might retain several faculties without any power of manifesting them; a bird, whose brain is in *any way* violently injured, is not likely to sing, or to build a nest. Finally, the derangements of parts which are affected by sympathy, are sometimes more sensible than those of parts which suffer primitively or idiopathically; a headach is often the sole result of something indigestible in the stomach; and this takes place without any feeling of pain in the stomach itself. *Hence it is impossible to determine the functions of the cerebral parts by their mutilation.*"

The same doctrine is laid down in Dr Gall's French work; and in Mr Combe's System of Phrenology it is said, "The fact is, that all parts of the nervous system are so intimately connected, that the infliction of injuries is not the way to determine the functions of any, even its least important parts."

These passages contain a distinct disavowal on the part of phrenologists, of "mutilations" as a means of establishing the functions of the different parts of the brain.

We have only further to call attention to a distinction which is rarely observed, but which ought never to be overlooked in reference to this question; namely, that the scientific competency of the experiments to ascertain the functions of the brain is one question, and the morality of performing them is another. It is scientific to dissect dead bodies; but it is morally atrocious to murder living men to render them subjects for dissection. The whole adherents of a science may justly be charged with practices which are necessarily implied in its principles; all physiologists, for example, are dissectors; but only the *individuals* who commit murder in order to obtain subjects can be charged with the immorality of Burking. Suppose it were well known that one of the unfortunate victims of Burk and Hare had been the means of leading to some brilliant physiological discovery, it surely does not follow that every writer who reported such discovery, and the experiments by which it was arrived at, can be charged with conniving at the practice of Burking, because he did not go out of his way to expatiate on the immorality and cruelty of such a practice. Now, the phrenologists are still less amenable to the charge of conniving at cruelty, for disavowing, as they do, even the *scientific* propriety of the mutilations in question; it requires but a small extent of charity to acquit them of the *moral* crime of encouraging outrages to humanity, which they declare to be incapable of accomplishing any good end.

ARTICLE IV.

THE ANATOMY OF THE BRAIN, with some Observations on its Functions. By ALEXANDER MONRO, M.D. &c. To which is prefixed an account of Experiments on the Weight and Relative Proportions of the Brain, Cerebellum, and Tuber Annulare in Man and Animals, under the various circumstances of Age, Sex, Country, &c. By Sir WILLIAM HAMILTON, Bart.

(By Mr HEWETT C. WATSON, Senior President of the Royal Med. Society.)

SIR WILLIAM HAMILTON'S "Facts and Fictions," promised several years ago, are not yet published. This is rather extraordinary, as, no doubt, Sir William must have had them in possession when their future publication was first advertised. We cannot suppose, after the confident manner in which they were announced, either that his Facts had then to be discovered, or his Fictions then to be invented. Dr Monro, however, in a new edition of his work on the Anatomy of the Brain, has given to the public "the results" of Sir William Hamilton's observations*, apparently made subsequent to the advertisement of the Facts and Fictions, "in his own words;" at the same time expressing a hope that Sir William would soon publish the details of his experiments. We sincerely wish, but, after the experience of his Facts and Fictions, scarcely venture to *hope*, the same. We wish it, because, in this age of experiment, when experimentalists on the brain differ so greatly and so essentially both in the facts observed and in the conclusions drawn from them, we are quite sure that very little importance will be attached to the mere "results" of Sir William Hamilton's experiments, until full and accurate details be published. Sir William's literary acquirements may be great; but never having attained any rank as a naturalist, as a physiologist, or as a human or comparative anatomist, he cannot expect the scientific world to take his "results" on faith. In experiments on living animals in particular, there are too many sources of error, which even the most accustomed experimentalist can scarcely avoid, to allow of any reliance on conclusions from those of a comparative tyro in natural science, unless the experiments themselves be minutely and accurately detailed. It is more especially incumbent on Sir William Hamilton to do this, as he differs in several points from the most dexterous experimentalists of the continent. Perhaps this desideratum will in due time be supplied, otherwise Sir William

* We have heard that Mr Stone assisted Sir William in the experiments and observations here reported; but no mention is made of him in the report. Does Mr Stone mean to favour us with additional "Facts and Fictions" of his own? Or has he surrendered all right to the present set to Sir William for his individual benefit?

will be nearly in the position of a chemist who informed the world that he had succeeded in producing a greater degree of cold than any of his scientific brethren, but never explained *how* this was effected. Some of our friends may notwithstanding feel desirous to know the *results* of Sir William Hamilton's experiments and observations. We deem it therefore proper to state them, and shall at the same time append to them such remarks as their general and often vague nature may seem to require or admit of.

Sir William informs us, that "The following, among other conclusions, are founded on an induction drawn from above 60 human brains, from nearly 300 human skulls of determined sex, the capacity of which, by a method he devised, was taken in sand, and the original weight of the brain thus recovered, and from more than 700 brains of different animals."

Obs.—So far as the number of brains and skulls is concerned, a tolerable approximation to accuracy, at least in some of the propositions presently to be stated, might be expected; but until Sir William informs us of the number of brains or skulls of each *species* of animal, of each nation, sex, and age, as well as the circumstances under which the individuals died, it is quite impossible to decide on the degree of credit to be attached to his conclusions. The conclusions themselves may have been accurately drawn from the data, but in these data there may have been sources of fallacy sufficient to vitiate the conclusions so far as to render them inapplicable as general facts or laws. How Sir William recovered the original *weight* of the brain by weighing the quantity of sand required to fill a skull we are quite at a loss to conceive; that he might estimate the *size* of the cranial contents by such a method is quite clear.

"1. The adult male encephalos is heavier than the female; the former nearly averaging in the Scots head 3 lb. 8 oz. troy, the latter 3 lb. 4 oz. In the male, about 1 brain in 7 is found above 4 lb. troy; in the female, hardly 1 in 100."

Obs.—This is pretty nearly what we should have expected. The extremes differ more in the two sexes than the means. In ordinary life we see many females on a par with the other sex; but only a small number of females, in proportion to that of men, exhibit extraordinary force of character. To the exact numerical proportions, as here given, we attach little weight. It would require several thousand brains or skulls to determine exact proportions where they are so low as one per cent.

"2. In Man, the encephalos reaches its full size about seven years of age. This was never before proved. It is commonly believed that the brain and the body attain their full development together. The Wenzels rashly generalized from *two* cases the conclusion, that the brain reaches its full size about seven

years; as Scammering had, in like manner, on a *single* case, assumed that it attains its last growth by 3. Galt and Spurzheim, on the other hand, assert that the increase of the encephalos is only terminated about 40. The result of my induction is deduced from an average of 36 brains and skulls of children, compared with an average of several hundred brains and skulls of adults. It is perhaps superfluous to observe, that it is the greater development of the bones, muscles, and hair, which renders the adult head considerably larger than that of the child of seven."

Obs.—We should like to know the precise details of these observations. That the proposition has never before been proved, we conceive Sir William Hamilton may safely affirm. Whether he has established it now, we are certainly justified in considering to be at least doubtful, so long as we are not in possession of the details from which his conclusions are drawn. Perfect accuracy, in this inquiry, can only be attained by comparing the heads of the same individuals at different ages; but this being impossible in regard to the contents of the skull, we are compelled to take averages, and trust to the different sources of error counterbalancing each other. The average from a much greater number than 36 skulls and brains appears to us essential to the formation of a standard worthy of implicit reliance. But granting Sir William Hamilton's conclusion to be nearly correct, it does not militate against the doctrines of Phrenology, because although size is one and an important, it is not the only, condition of mental vigour. Though the brain of a child at seven may vary but little in size from that of an adult, its composition or quality is very different. Two pages from this proposition of Sir William Hamilton, we find Dr Monro stating that "it (the brain) varies much in different individuals, and from a variety of circumstances. The younger a child the softer is the brain," &c. The phrenologists, therefore, do not compare two *brains* together, but different parts of the same brain, in estimating mental capacity. They may afterwards compare the *relations* which these different parts bear to each other in the different brains. Vide Obs. on No. 6.

"3. It is extremely doubtful whether the cranial contents usually diminish in old age. The vulgar opinion that they do, rests on no adequate evidence, and my induction would prove the negative."

Obs.—Until Sir William speaks more positively, or gives the facts on which his doubts rest, we shall be content to keep to the "vulgar opinion."

"4. The common doctrine that the African brain, and, in particular, that of the Negro, is greatly smaller than that of the European, is false. By a comparison of the capacity of two Caffre skulls, male and female, and of thirteen Negro crania,

(six male, five female, and two of doubtful sex), the encephalos of the African was found not inferior to the average size of the European."

Obs.—This may be "the common doctrine," but it is not that of the phrenologists. We have indeed seen larger European than African heads; but many of the latter are probably equal, some even superior, to the average European. In Mr Combe's System of Phrenology, the author alludes to several circumstances which, in the natives of Africa, "indicate a considerable scope of mind," coinciding "with the opinion which a phrenologist would form on examining their different skulls." That the African brain is less (we do not say *greatly* less) than the European, and especially so in the moral and intellectual organs, is true; but the difference in size between the brains of the European and of the natives of New Holland, North America, and Hindostan, is much more decided.

"5. In Man, the cerebellum, in relation to the brain proper, comes to its full proportion about three years. This antiphrenological fact is proved by a great induction."

Obs.—Here we especially regret that Sir William has not informed us what his "great induction" is. He has told us that his conclusions were "drawn from above 60 human brains, and nearly 300 human skulls." Of course in this investigation only the brains could be of any use. But, out of this he states (No. 2.), that 36 brains and skulls of children, and several hundred brains and skulls of adults, were employed in the induction that the encephalos reached its full size at *seven* years. We fear this leaves a very small number of brains at *three* years for Sir William's "great induction." Dr Spurzheim, who has had opportunities of seeing far more than 60 brains, states, in his "Phrenology," that "whoever will be at the pains to compare the encephalon of children of two, four, six, and ten, and of young people up to their sixteenth year, will be convinced that, relatively to the brain, the cerebellum is at these periods smaller than in adult age. If any exception to the rule be found, it must be regarded as an individual peculiarity of organization."

"6. It is extremely doubtful whether the cerebellum usually diminishes in old age; probably only in cases of *atrophia senilis*."

Obs.—On this "extremely doubtful" point, Sir William is of course at liberty to hold any opinion he may prefer; but we should like to know upon what induction he thinks it probable that the cerebellum only diminishes in *atrophia senilis*.

In relation to propositions 2, 5, and 6, we beg to quote the authority of an antiphrenological anatomist and experimentalist of much greater celebrity than Sir William Hamilton. The latter informs us that the encephalos has attained its full size at seven years, and that, so early as three years, the cerebellum is

at its full proportion to the brain proper. It is obvious, then, according to these assertions, that the cerebellum ought not to grow after seven years. In the *Anatomie comparée du Cerveau* of Serres, is a table of the size of the cerebellum in the human subject, at different periods of life, from which it appears that a rapid increase goes on till the age of fifteen, or thereabouts; that from fifteen to forty years there is still an augmentation, though by no means so great; and, lastly, that, in the decline of life, the cerebellum does diminish, so that at 100 years it has sunk below the dimensions at ten. We may certainly be allowed to withhold our assent to the mere assertions of Sir William Hamilton opposed to this statement of Serres.

"7. The cerebellum, in the female, is in general considerably larger, in proportion to the brain proper, than in the male. In the human subject (the *tuber* excluded); the former is nearly as 1 to 7·6; the latter nearly as 1 to 8·4; and this sexual difference appears to be more determinate in man than in most other animals. Almost the whole difference of weight between the male and female encephali lies in the brain-proper; the cerebella of the two sexes absolutely are nearly equal,—the preponderance rather in favour of the women. This observation is new; and the truth of the phrenological doctrine implies the reverse. It confirms the theory of the function of the cerebellum noticed in the following paragraph."

Obs.—Again we would inquire; on what induction is this result founded? It would of course be improper here to include the brains of young children; and, after deducting from the sixty brains those sufficing for the great induction at three years, as well as those in the thirty-six brains and skulls of children used in the seven years induction, how many remained for this? We do not, however, think it very improbable that, relatively to the brain, the cerebella of females should be equal to that of males. Sir William Hamilton's results are opposed to those of Serres. Gall and Spurzheim differ from both. A very extensive induction will be necessary to settle this question.

"8. The proportion of the cerebellum to the brain proper at birth, varies greatly in different animals. Physiologists have hitherto believed that the cerebella of all animals, indifferently, were, for a certain period subsequent to birth, greatly less in proportion to the brain proper, than in adults; and have taken no notice of the differences in this respect between different classes. Thus completely wrong in regard to the fact, they have wholly overlooked the law by which it is governed. In those animals that have, from the first, the full power of voluntary motion, and which depend immediately on their own exertions, and on their own power of assimilation, for nutriment, the proportion of the cerebellum is as large, nay larger, than in the adult. In the chicken of the common fowl, pheasant, par-

tridge, &c., this is the case; and most remarkably after the first week or ten days, when the yolk (corresponding, in a certain sort, to the milk in quadrupeds), has been absorbed. In the calf, kid, lamb, and probably in the colt; the proportion of the cerebellum at birth is very little less than in the adult. In those birds that do not possess at once the full power of voluntary motion, but which are in a state of rapid growth, the cerebellum, within a few days at least after being hatched, and by the time the yolk is absorbed, is as large or larger than in the adult; the pigeon, sparrow, &c. &c. are examples. In the young of those quadrupeds that for some time wholly depend for support on the milk of the mother, as on half assimilated food, and which have at first full powers of regulated motion, the proportion of the cerebellum to the brain proper is at birth very small; but, by the end of the full period of lactation, it has with them, as with other animals (nor is man properly an exception), reached the full proportion of the adult. This, for example, is seen in the young rabbit, kitten, whelp, &c.: in them the cerebellum is to the brain proper at birth, about as 1 to 14; at six and eight weeks old, about as 1 to 6. Pigs, &c. as possessing immediately the power of regulated motion, but wholly dependent on the milk of the mother during at least the first month after birth, exhibit a medium between the two classes. At birth, the proportion is in them (as I recollect), about 1 to 9; in the adult as 1 to 6. This analogy, at which I now only hint, has never been suspected. It points at the new and important conclusion (corroborated by many other facts), that the cerebellum is the intra-cranial organ of the nutritive faculty, that term being taken in its broadest signification, and confirms also an old opinion, recently revived, that it is the condition of voluntary or systematic motion."

Obs.—The experiments of Serres, no phrenologist, corroborate the opinion of Gall and Spurzheim, with this exception, that, according to the former, a part only of the cerebellum is connected with the function attributed to it by phrenologists. In support of his conclusions, Serres has adduced much anatomical and pathological evidence. Sir William Hamilton's results differ from those of Serres. Perhaps the latter were too phrenological for his taste. Flourens, again, differs from both. Does nature vary, or do these experimenters fail in drawing accurate conclusions from what they observe? We presume most men would be inclined to believe the latter. The antiphrenologists are fond of bringing forward cases of organic lesion, with little or no apparent injury of function, and then, raising a premature pean over the imaginary downfall of Phrenology, because its advocates cannot explain *every* circumstance of structural economy. What reply could Sir William Hamilton make

if we should object to his theory of the cerebellum being the intra-cranial organ of the nutritive faculty; because we find Dr Monro stating, on the authority of Sir William Hamilton's own experiments, that "the cerebellum may, with the exception of a very limited focus, without apparent injury to the vital functions, be almost literally made into a pin-cushion;" also, that he saw, "in the garden of Sir William Hamilton, several young rabbits and chickens, to all appearance in the most perfect health, through whose brains and cerebella wires, small skenes of thread, &c. had at different times been passed in various directions." That there is no connexion, mediate or immediate, between the cerebellum and motion or nutrition, we should be unwilling to assert. Nay, we have ourselves observed, and heard it remarked by others, that individuals, in whom the cerebellum is largely developed, and who manifest the amative propensity strongly, are commonly restless in their habits, and often evince a decided tendency to the formation of cellular tissue and fat. It does not, however, appear to be a general fact, that the development of the cerebellum, in proportion to that of the brain, corresponds with the powers of nutrition. Sir William Hamilton states the proportions of the cerebellum and brain in the adult pig to be 1 and 6. Cuvier gives the same proportions in the cat; yet the former infinitely exceeds the latter in the power of assimilation. Sir William also admits the cerebellum to be smaller in proportion to the brain in the earliest years of human life, and yet it is *then* that we find assimilation carried on in the most rapid and energetic manner. If, however, Sir William imagines the cerebellum to be developed in a ratio corresponding to the united powers of assimilation and motion (he connects size with either or both, as it may "*suiis his hypothesis*,") how is it that chickens, partridges, and pheasants, which do run about, and pigeons and sparrows, incapable of self-support during the earliest days of extra-ovine existence, have the brain and cerebellum in equal ratio to each other? Facts must decide this question; which, however, can scarcely be claimed by Sir William either as his own or as an original idea. In the work of Serres, before mentioned, we find this sentence, which, not having the original authority at hand, is here quoted: "Il (Willis) regarda les hemispheres cerebraux comme les organes du mouvement volontaire, et le cervelet comme celui des mouvements involontaires. La circulation, la digestion, la respiration, se trouvaient des-lors sous sa dependance immediate." We hold it to be indisputable, that the cerebellum is necessary to the manifestation of the amative propensity, but do not assert that the whole of it is requisite or limited to this function.

"9. Castration has no effect in diminishing the cerebellum, either absolutely or in relation to the brain proper. The oppo-

site doctrine is an idle fancy, though asserted by the Phrenologists as their most incontrovertible fact. Proved by a large induction."

Obs.—We should like to ascertain what is the large induction. The statement, so far as connected with Phrenology, is inaccurate. Dr Spurzheim writes, "*Sic castratio cerebelli incrementum imminuit, nam in hominibus et animalibus castratis cerebellum crescere desinit. Quamobrem eunuchis atque animalibus, in prima ætate castratis, est collum valde exiguum, et copulandi cupido nulla. Contra, homines cæteraque animalia, post plenos annos castrati, quamquam testium expertes, sensum tamen eroticum et copulandi stimulum conservant.*" There is nothing here about diminishing the cerebellum. Dr Spurzheim merely asserts that its growth is checked if the mutilation be performed very early. The consequence here mentioned by Sir William Hamilton is not therefore stated by phrenologists as an invariable fact*. If a fact in any case, it is not "an idle fancy," and as to being the "most incontrovertible fact" of the Phrenologists, all facts are equally incontrovertible.

"10. The universal opinion is false, that man, of all or almost all animals, has the smallest cerebellum, in proportion to the brain proper. Many of the commonest quadrupeds and birds have a cerebellum, in this relation, proportionally smaller than in man."

Obs.—The latter part of what is here stated may be in part correct; but, according to the observations of the best anatomists, most of the commonest animals, as the dog, horse, cat, sheep, &c. have the cerebellum relatively larger than man. The universality of belief that man has the smallest cerebellum proportionally, we beg to call in question; because, on turning over the first elementary work on physiology met with after reading this proposition (Bostock's Elem. Syst. of Phys.), we find it stated on the authority of Cuvier, that some animals have a larger brain, in proportion to the cerebellum, than is found in man.

"11. What has not been observed, the proportion of the tuber annulare to the cerebellum (and *a majore* to the brain proper), is greatly less in children than in adults. In a girl of one year (in my table of human brains), it is as 1 to 16·1; in another of two, as 1 to 14·8; in a boy of three, as 1 to 15·5; and the average of children under seven, exhibits the pons, in pro-

* Dr Gall's words are,—"*Dans ce cas, et je suis tenté de dire dans tous les cas, l'influence de l'opération (castration) finit par se manifester sur le cerveau.*"—*Sur Les Fonctions du Cerveau*, iii. 288, et seq. Dr Gall reports numerous cases, observed by himself and other individuals, in which the results were different from those here reported by Sir William Hamilton. We leave the reader to decide whose authority is more deserving of credit.

portion to the cerebellum, much smaller than is the average of adults, in whom it is only as 1 to 8, or 1 to 9.²

Obs.—We are not aware that any observer has made precisely this statement. In so far, therefore, Sir William Hamilton may correctly consider it to be new. Anatomists have demonstrated that the human frame, in its successive development and proportions, passes through the structural peculiarities which characterize animals, commencing with the lower tribes, and gradually ascending up to the perfect form of man; the encephalos is amongst the parts latest in attaining their perfectly human proportions; in fact, this not happening till some time after birth. Tiedemann expressly tells us, that in the cerebellum (of course including the pons) “nature follows the same fundamental type, and that not only the successive formation of this organ in animals, from fishes to man, but also its gradual formation, or its development, in the embryo, is effected by the same laws, and in the same order.” Now, the lower we descend in the animal scale, the smaller is the pons: ergo, it requires no great profundity to decide, that the younger the human brain, the smaller is the pons. The law having been settled by extensive observation, without Sir William’s assistance, his further labours and investigations on this point are equally worthless to the world, as would be those of any one determining by experiment that the blood of a sparrow circulates. Sir William, however, seems unaware why the pons is smaller in proportion to the cerebellum in the earliest years of human life. The explanation of the circumstance is simply this; in the lower animals, and in young children, the lateral lobes of the cerebellum are proportionally smaller than the middle one or this process; and the pons, according to the observations of the best physiologists, being developed in correspondence with these lateral lobes, as a matter of course it is smaller in certain animals, and in the human subject up to a certain age, when compared with the *whole* cerebellum.

“12. In specific gravity, contrary to the current doctrine, the encephalos and its parts vary very little, if at all, from one age to another. A child of two and a woman of a hundred years are, in this respect, nearly equal, and the intermediate ages shew hardly more than individual differences.”

Obs.—This is contrary to the doctrine current with some physiologists, and being so, will require full evidence. Andral and others say that it generally becomes somewhat diminished in specific gravity in old age. No anatomist doubts that the consistence of the young and adult brain differs. So few experiments or observations have been made on this point, that most physiologists seem to have scarcely an opinion either way. The same remark will apply to the next proposition.

“13. The specific gravity of the brain does not vary in mad-

ness—if one case of chronic insanity is to be depended on, contrary to what has been alleged. In fever it often does, and remarkably.”

Obs.—Sir William has taxed the Wenzels with *rashly* generalizing from two cases. What are we to say to him for generalizing from only half the number? Had Sir William been a medical man, he would have known that insanity often arises from disease of the membranes, or even the bones of the head, with little or no *appreciable* alteration of the substance of the brain itself. We would further beg to remind him, that fever is a general affection of the system; insanity often a *partial* affection of a particular organ; and such being the case, the *specific gravity* of the affected organ ought to be taken.

“14. The cerebellum (the converse of the received opinion), has a greater specific gravity than the brain proper; and this difference is considerably more marked in birds than in man and quadrupeds. The opinion also of the ancients is probably true, that the cerebellum is harder than the brain proper.”

“15. The human brain does not, as asserted, possess a greater specific gravity than that of other animals.”

“Such, then, are the results of Sir William Hamilton's labours; their value, in our opinion, exceedingly small; and their relation to Phrenology for the most part slight and indirect. Had Sir William spent one-half the labour and time in collecting skulls, or their casts, of nations, both civilized and savage,—of individuals notorious for the excessive or feeble energy of particular passions,—of men celebrated for the possession of great and partial intellectual power—of others remarkable by their general or partial deficiency in this respect,—of courageous and timid, of carnivorous and herbivorous animals,—and other similar facts, calculated to meet the advocates of Phrenology on their own ground, and to put the facts and principles of their science to an open, honourable, and positive test, patent to the senses, and clear to the understanding of men of education; had he done this, we repeat, he would have been acting the part of one anxious for the promotion of truth, and zealous for the advancement of science. How far he has chosen a proceeding calculated to effect this, we leave others to decide. Few, we believe, can have attended to the general character of Sir William Hamilton's proceedings, from the period of his first entering the arena against Phrenology, without being fully convinced that Sir William's labours have indicated a rancorous hostility to Phrenology and phrenologists, infinitely surpassing his zeal for the truths of science. In our remarks on his propositions, we have endeavoured, as far as possible, to act the part of neutral observers, treating them as points presented to the republic of science, and without reference to the spirit in which they have been made, or the individual by whom they have been conducted. Our own opinion is, that

they are almost entirely undeserving of attention, as being too deficient both in philosophical spirit and scientific accuracy, to merit reliance. All that could be gathered from Sir William's labours seems to be, that experimental physiology is utterly useless; for, with his multiplied experiments,—with his 700 brains and skulls of animals, and nearly half as many of human beings,—with all his pins, needles, wires, and skenes of thread,—with his sand, and the “method devised by himself,”—his weighings and measurements, his new discoveries of obsolete hypotheses, &c. &c.—what has he done? Has he succeeded in establishing any new and really important or useful conclusions,—confirmed what were doubtful,—or overthrown and corrected errors? We say he has not done this. On the contrary, by publishing results at variance with those drawn from the experiments and observations of the best anatomists and physiologists of the age, sustained but by meagre and insufficient evidence, and resting only on the knowledge and accuracy of one unknown in the republic of natural science, he has hurried himself into a most awkward and unenviable position, to extricate himself from which, were it possible, would be no honour, and to remain in which will but the sooner subject him to that merited disgrace and contempt which has ever followed quick in the footsteps of the enemies of true science.

ARTICLE V.

CASES OF WILLIAMS AND BISHOP, MURDERERS.

THESE men were lately executed in London for murder, committed to gain money by the sale of dead bodies to teachers of anatomy. The following account of their cerebral development, read by Dr Elliotson to the Phrenological Society of London, appeared in the *Lancet* of 14th January 1832. The editor of the *Lancet* has kindly sent us the cuts with which the developments are illustrated.

“It is not any individual action,” says Dr Elliotson, “but the general character and talents of a man placed under known external circumstances, which Phrenology points out. The size and form of the cranium are the same the day before a man commits a murder—when he is no murderer,—as the day after he has committed it—when he is a murderer. But the judgment of the phrenologist who inspects his head on both days must be the same. If Williams and Bishop had accidentally died before they turned murderers, the character given of their heads by phrenologists would have been the same as now.

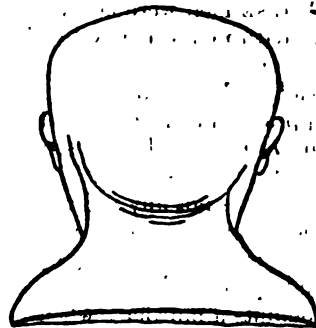
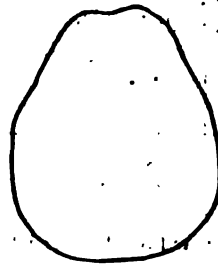
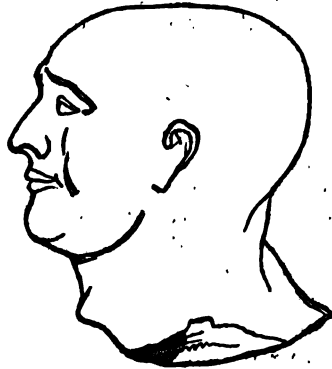
“The characters of the two criminals in question are well

known. Their conduct originated not from morbid excitement, nor any diseased condition of the brain. It arose, not from any momentary impulse, but was deliberate and settled. We have, therefore, a right to expect their organization to be in perfect harmony with their lives. And so it is.

"The head of Williams is by far the worse. The intellectual portion is very small—exceedingly low; the moral portion is equally wretched—exceedingly low; while that devoted to the animal propensities—the lower-posterior and lower-lateral parts, especially Destructiveness, Acquisitiveness, Secretiveness,—is immense.

"The relation of the developments of the organs to each other is as follows:—

Amativeness	Very large.
Philoprogenitiveness ..	Moderate.
Inhabitiveness	Moderate.
Adhesiveness	Large.
Combativeness	Very large.
Constructiveness	Small.
ACQUISITIVENESS	VERY LARGE.
DESTRUCTIVENESS ...	VERY LARGE.
SECRETIVENESS	VERY LARGE.
Self-esteem	Full.
Love of Approbation	Large.
Cautiousness	Very large.
Benevolence	Very small.
Veneration	Very small.
Hope	Very small.
Conscientiousness	Very small.
Ideality	Small.
Firmness	Small.
Knowing faculties	Large.
Intellectual faculties ...	Small.



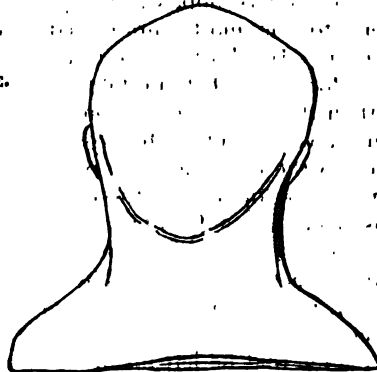
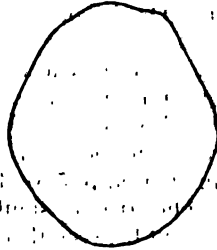
"With such a deficiency of moral sentiment, of Benevolence, Veneration, and Conscientiousness,—with such a deficiency of intellectual strength, and with such a deficiency of Ideality, or the sense of what is refined and exquisite in nature and art; and, on the other hand, with such a superabundance of desire, Covetiveness, Destructiveness, &c. there is no wonder that his whole life was low and villanous. We are informed, that so dissipated were his habits, that he left his occupation of a bricklayer, and associated with thieves and blackguards, and nearly ruined his

mother; that he was frequently in custody on charges of felony; that he was sentenced to transportation seven years ago for stealing; that he turned body-snatcher, broke into houses to steal corpses, and at last, for mere expedition, without the persuasion of any one, did not hesitate to murder his fellow-creatures for the sake of selling their bodies.

"In *Bishop*, the forehead slopes considerably, and is narrow,—the intellectual portion is wretched; the superior portion—that dedicated to the moral sentiments, is low (lower than it appears, on account of the hair not having been shaved off there, like that of *Williams*, previously to taking the cast, and having become matted with the plaster), and it is particularly narrow; while the lower-lateral portions are large, Covetiveness particularly so. Combativeness or courage is very small. The whole head is much smaller than that of *Williams*.

"The relative proportion of the organs stands thus:—

Amativeness	Large.
Philoprogenit. ...	Large.
Inhabitiveness ...	Moderate.
Adhesiveness	Moderate.
Combativeness ...	Small.
DESTRUCTIVENESS ..	LARGE.
Constructiveness ..	Moderate.
ACQUISITIVENESS ..	VERY LARGE.
SECRETIVENESS	LARGE.
Self-esteem	Large.
Love of Approbat. ...	Full.
Cautiousness	Moderate.
Benevolence	Small.
Veneration	Moderate.
Hope	Small.
Ideality	Small.
Conscientiousness ..	Very small.
Firmness	Small.
Knowing faculties ..	Large.
Intellectual facult. ..	Very Small.



* This organ appears from the drawings to be large.—EDITOR.

"The preponderance of the lower feelings over the superior, and over the intellect and Ideality, are likewise in accordance with Bishop's character. The smaller size of the head agrees with the fact, that Williams led Bishop into the course of crime, which caused the forfeit of his life; for it is said that, after pursuing the trade of body-snatching for some time, Williams thought of saving trouble, by killing people as they were wanted, and induced Bishop to join him in this improvement. From this circumstance, and the greater villany and daring of Williams' character, I had no difficulty for a single moment, when I first saw the casts, in pronouncing which was the head of Williams and which of Bishop. The large development of the organ of Acquisitiveness, with the small development of that of Conscientiousness, and of the moral sentiments at large, accord with the account given us of Bishop being always ready to perjure himself for the sake of gain, and to cheat in every way; the smallness of Combaticiveness, equally agrees with the account of his being a sneaking villain—an arrant coward.

"For the sake of contrast, I beg the Society to contemplate the head of a character distinguished for his intellect and nobleness, that of Dr Gall."

Thus far Dr Elliotson. We refer our readers to the account of Burk and Hare, executed at Edinburgh for similar crimes, contained in Vol. V. p. 549; and to the representations of their heads exhibited on p. 556 of that volume. The striking similarity in development between them and Williams and Bishop, will be apparent to the most unpractised observer. In short, there is no fact in Phrenology better established, than the great and preponderating development of the organs of the animal propensities, situated in the base and back part of the brain, and the relatively small development of the moral organs in deliberate and atrocious criminals. This fact goes deep into questions of moral and legal responsibility; and it must necessarily lead to important practical results. The present cases afford apt illustrations of the doctrines expounded by Dr Caldwell in the first Article of this Number.



ARTICLE VI.

HINTS ON CIVIL HISTORY AS A BRANCH OF EDUCATION.

WHATEVER may be true of the Commons' House of Parliament, in which it is said that *restoration* is the sole object, Reform even to Revolution; and that all over the world, in the substance and mode of the education of the young, is both demanded and pointed out by Phrenology. There are signs in the times which indicate that the existing errors, in all their profundity, are already felt by the reflecting. Sagacity is at work, both in Europe and America, in substituting sense for absurdity in many of the details; and some excellent systems, even, have already been offered by original genius to the world. None of these are more, however, than partial in their objects; and in nearly all there are important misconceptions, arising from their framers being yet unfurnished with that sound and consistent philosophy of human nature which is to be found in Phrenology alone.

Having stated our own opinions of a systematic education, from two years of age to twenty, in our preceding number, (vol. vii. page 348.) we do not mean, in this paper, to recur to the more general views of the subject; but shall take up an important branch of education, namely, History, and bringing it to the phrenological standard, see whether, as well in the manner in which it has hitherto been written, as in the mode in which it has been taught to the young, it has accorded or not with a sound practical ethics, and advanced or retarded social improvement.

We shall inquire, first, What the bygone history of the human race essentially is; and, secondly, In what manner it ought to be written and taught.

First, The annals of man, with exceptions of a nature calculated only to give more force to the rule, are susceptible phrenologically of a very summary description, for by far the greater portion of the recorded duration of his race, and that is—A CHRONICLE OF THE ANIMAL PROPENSITIES. Gleams of morality, it is true,—like angel visits—like meteors in the vast obscuration,—have at all times more or less shone out; although much that seems morality in the ancient world, as will appear in the sequel, is of an equivocal character. In recent modern times, the light of the higher sentiments has begun to burn more steadily; but it yet yields little more than renders visible the vast chaos of selfishness, which still engulfs mankind.

The ancient world was enslaved by the propensities, paramount almost without mitigation. This thralldom characterized their customs, and degraded their institutions. The quality is necessarily uniform in its manifestations and effects. Egyptians, Assyrians, Babylonians, Medes, Persians, Greeks, and Romans, offer to the eye of the phrenologist much fewer points of difference than to ordinary readers of their respective histories. Pride, rapacity, and cruelty, in the form either of autocratical or democratical power, internally degraded and oppressed each of these tribes of barbarians; while, externally, their relations to each other exhibit twenty centuries of ever-active pride, vanity, jealousy, injustice, fraud, violence, cruelty, slaughter, and robbery, all manifestations of the lower propensities in their most unrestrained form of criminal energy. War waged with atrocity, ended, when not in the extermination, in the bondage, of the defeated. A series of empires, as they are called, only indicate to us which tribe were for the time the strongest animals, from the epoch that the Egyptian "King of Kings" is said to have subjected nameless hordes of barbarians, in regions without bounds,—through ages of Assyrian domination over all Asia,—of Babylonian ascendancy over prostrate Assyria,—of Persian vengeance on gorged and gilded Babylon,—Macedonian on Persia,—till, later still, the Greek found a stronger animal power yet in the talons of the Roman Eagle, and the accumulated flood of human selfishness and cruelty, which had swelled, as it swept along, from Sesostris to Trajan, found an ocean in the overwhelming breadth and depth of Roman self-aggrandisement.

But, by the Creator's fiat, Justice and Mercy alone endure for ever. Human power, founded on any lower feelings, is an audacious defiance of His laws. Even its temporal punishment is sure, although more or less postponed. The instrument may be as unworthy as the criminal. Babylonish brutality was as profound as Assyrian, Persian as Egyptian. Enlightened morality spurns the office of weighing out a little more pride to the Ninevite, a little more cunning to the Egyptian, a little more sensuality to the Babylonian, a little less falsehood to the Persian;—they were all below the level where discrimination avails; none of them could complain of the same injustice and violence which each, when strong enough, had inflicted; propensities tugged with propensities, and the tribes of antiquity successively tore each other to pieces.

There seems no fitter place than this to put in a caution necessary to the reader's sympathy with our theory, that human affairs have manifested the lower or animal feelings in excessive preponderance. When we use the term animal feelings, we include in it the lower sentiments of Self-Esteem, Love of Appro-

bation and Cautiousness, in addition to the nine or ten propensities strictly so called; and we are philosophically entitled to do so, seeing that phrenologists are agreed that these sentiments belong to animals inferior to man. In the service of the propensities, too, the human faculties of Veneration, Wonder, Hope, and Firmness, are necessarily in abuse. This is well marked in the savage; while in him Benevolence and Conscientiousness are in abeyance. Further, we do not deny intellect as an agent, and a powerful one, in the service of the propensities. Intellect and genius, with all their lustre, characterized Greece and Rome; but, with a few individual exceptions, unallied to true morality.

There figures in the history of these ancient tribes an element too important in its practical consequences to be passed over, in treating of the events of antiquity, and that element is military glory. Nothing more highly excites the Self-esteem of the savage than his consciousness that he has braved danger, unflinchingly endured pain, and exhibited strength, cunning, and skill; but if he has done all this in combat with an enemy, and has outvalled, and humbled, or destroyed that enemy, the sentiment of Self-Esteem is gratified in the highest degree of which in savage life it is capable. The sentiment, moreover, of Love of Approbation receives its highest delight from the applause which his kindred savages accord to feats of strength and daring above the pitch of their own powers; the chiefship, the highest prize in savage life, is as naturally conceded as assumed; the hero not only fights himself but leads others to battle; the combination of the ambitious faculties works with its greatest energy; his *glory* is complete. It is needless to remind the phrenologist that such glory does not rise higher than an animal attribute. The boldest and strongest lion in the arena, or game-cock in the pit, ranks *pari passu* with the savage hero, merely as such. The warriors whom Homer has arrayed with all the splendours of his poetry, he has only exhibited as magnificent animals; and Richard, monarch of England, borrowed his chiefly boasted distinction from the king of beasts. As society advances from the savage, through the barbarous, and what is called, comparatively, the civilized state, heroism, like other animal manifestations, becomes more exalted and refined; in other words, higher sentiments mingle in its composition. Ideality leads to splendour and pomp of circumstance, of more or less taste, and invests war with a gorgeous and glittering external. Generosity, one of the manifestations of Benevolence with a mixture of Self-Esteem and Love of Approbation, tempers its horrors; while honour, a result of Conscientiousness and Love of Approbation, keeps the word, the truce, or the treaty, inviolate. Justice, too, on his side immensely elevates the moral character of the warrior's feats. The same act of prowess

and self-devotion has quite a different aspect when performed by the patriotic soldier defending his country from unjust aggression, from what belongs to it when the deed is arms of the aggressor. The Swiss who opened a path for his countrymen into the phalanx of the Austrian men-at-arms, by grasping in his embrace a number of their levelled lances, and fixing their points fast in his own bosom, afforded an example of heroism of the highest order; and far eclipsing the most daring deed of arms which was ever performed in a war of aggression. Exciting, as it does, so many of the strongest impulses, it is not to be wondered at that the military passion has stood so prominent in human affairs, and that war, with its twofold prize of glory and plunder, has shared so largely as well nigh to engross the page of history; nor is it more than was to be expected, that, down to our own times, the animal still impelling nineteen-twentieths of social concerns, war is popular, and martial feats yet receive the loudest acclaim, and lead to the highest honours and richest rewards.

If the animal feelings, with a force almost uncontrolled, impelled the tribes of antiquity in their international relations, it is scarcely to be expected that we shall have to go higher for the springs of their internal polity. Asia and Egypt are easily disposed of;—brute despotism, based, in the rulers, on Self-Esteem downwards to the lowest of the propensities, and suffered by perverted Veneration and abject Fear in the governed. This is the monotony of the propensities. Despots and slaves present no varieties. Their dull station offers but one landmark in the stream of human progress; for enslaved man does not advance. The character and practice of the tyrants were made up of the sensuality of the swine-sty, of whims and caprices of which children would be ashamed, for which millions of human beings were sacrificed, and of cruelties in endless variety, to support a reign of terror or gratify a wanton Destructiveness. Bricks in double tale were exacted, and straw was withheld. Pyramids were raised, the enduring monuments of gigantic childishness and oppression. Lives were sacrificed to shew the tyrant's expertness in the use of the bow or scimitar. The decree went forth that at the sound of the sackbut and psaltery, millions should change their religious faith,—and the weeping Hebrew was commanded by his revelling oppressor, to snatch his harp from the willow, and strike it to the lofty song of Sion.

With the superstitions of ancient Asia mis-called religion, we need not be detained. Wonder and Veneration, although human sentiments in which the brutes do not share, lead, when undirected by intellect, to belief in marvellous absurdity, and operate powerfully, but always pervertedly, in savage and barbarous man. But his deities are invested by him with his own

attributes, and these are active and paramount propensities; above all, are gifted with a greater power of evil than his own, and are consequently the more an object of his fear.

Were we not treating of profane history alone, we should here have been tempted to place in the most edifying contrast, in which they have ever been manifested on earth, the higher sentiments and the animal propensities. When moral chaos yet brooded on the face of the world, in the midst of the regions of ignorance and cruelty, like an oasis in the boundless desert, in the blackness of the night of barbarism, the star of Christianity arose. Suddenly, and without gradual growth, a system of moral ascendancy was developed and exemplified, of which all that we shall say at present is this, that the more philosophical our moral conclusions have become, the nearer have they approached to the precepts of that system.

By scholastic example it is the fashion to call Greece and Rome the *free States of Antiquity*. Phrenology denies the distinction; there is no civil liberty without a moral foundation. During the periods that these communities were not under the iron sceptre of a single despot, their freedom was no better than an animal struggle. On one side in the contest were the rulers, unceasingly grasping at vulgar power by vulgar means; while on the other were the people, profoundly ignorant of their moral claims to social freedom, and only uniting to snap the chain, as the wild beast endeavours to do, because it galled their pride, and fettered their democratic power. The kings who for a time governed Rome, and certain states of Greece, were essentially tyrants; and when the people rose and expelled them, they did so only to substitute their own tyranny instead. They made trial of various expedients to insure, not popular freedom, but popular power, and pulled down what they had built up, whenever they found that their own sovereignty was lessened. This sovereignty was exercised without either justice or mercy, and the whole weight of its ingratitude and oppression was sure to fall upon the heads of the public benefactors especially. *Their* merit was intolerable to the vulgar Self-Esteem, and could not possibly go unpunished. In Athens, Solon, Miltiades, Aristides, Themistocles, Socrates, Cimon, and last, though not least, the noble and venerable Phocion, were some of the well known victims.

No doubt in the struggle of selfishness, it was dangerous to elevate a citizen too much: but as there was no moral guide for the public institutions, the inferior feelings of pride and jealousy operated without regulation or control, and justice and gratitude were unknown.

We do not find in the writings of the ancient historians, philosophers, poets, or lawyers, or in the speeches of their orators, any indications of the prevalence, either in themselves or

the public whom they addressed, of any thing resembling what we should call established principles of rational liberty. They only *scorned* to be slaves, which manifestation of Self-Esteem is invariably accompanied with this other, that they longed to be tyrants. The struggle was for power, not for liberty, and power is the object of an inferior sentiment—an essentially animal desire. Benevolence and Justice are the only lasting foundations of free institutions. They desire equal rights, privileges and enjoyments for the whole race; they are inconsistent with a tendency in the governors to exclude, or oppress, or engross, and in the governed to overleap the self-imposed bounds of the social relations; in other words, they render restraint unnecessary. There is no durability in any government, where the governors do more than guard the community from excesses which may arise from the propensities, or where the governed combine to exercise any thing else than mutual good will and fairness, and respect for each other's rights. These limits were unknown in communities impelled by animalism, like Greece and Rome. A counter ambition, a love of power, moved the great majority of even their patriots. Their efforts were plots for their turn of ascendancy. The objects of Pisistratus in Athens, and the Gracchi in Rome, were not more founded in sound principle and disinterested feelings, than those of Catiline or Julius Cæsar. In a contest for animal ascendancy, physical strength alone prevailed, and the despotism of the Emperors terminated the anarchies and the tyrannies of "the free states of antiquity."

The anomaly of Sparta has dazzled the classical student with an appearance of republican virtue. But the phrenologist sees in the Spartan system no ascendancy of the higher moral feelings. A stern pride, and not benevolence and justice, equalized the condition of the citizens; established the public tables, the common education, the respect for seniors, and contempt for the most harmless and even beneficial refinements. The same pride and yet lower feelings were manifested in merciless cruelty to the Helots; in the practice of scourging the Spartan children, sometimes to death, at the altar of Diana, to habituate them to pain; and in the exultation of mothers that their sons died in the field of battle; while there existed the meanest jealousy of Athens, the rebuilding of which, when more than once destroyed, Sparta endeavoured to prevent. Theft, it is well known, was encouraged, and declared punishable only when detected; and immodesty was countenanced in the promiscuous resort of both sexes to the baths, and the exhibition of women naked in the games. It is remarkable that the instance of Sparta was unique; no community ever has imitated, or in all probability ever will imitate, the example.

There was no virtue, in the proper moral sense, in the Athenian people at large. A few men remarkable for benevolence and disinterestedness, no doubt, yet with a large alloy of barbarian pride, arose among them; but it has already been observed, that those their fellow-citizens could neither appreciate nor endure. Nothing more clearly demonstrates to a phrenologist the utter want of Benevolence and Conscientiousness in the Athenian character than this. Indeed the cruelty and injustice, which mark their general policy, would have been morally impossible to a merciful and conscientious people. With all their refinement they were restless, unsatisfied, and unhappy. This is a fact recorded by their own historians, and inferred by those of modern times. This is ever the retribution of animalism. The contentment which results from the supremacy of the higher sentiments and intellect was unknown to them; the animal propensities prevailed, and rendered them necessarily a concealed, selfish, jealous, fickle, and turbulent people. Tired of kings, they established Archons, and Draco exemplified the domination of the propensities, both in himself and in the people he governed, by his absurdly ferocious laws. Solon came after him, and gave the Athenians, as he said, not the best laws, for which he saw them utterly unfitted, but the best they were capable of receiving. In other words, he legislated for their inferior impulses, and of course legislated to no beneficial purpose. His four orders of citizens was a political absurdity, which threw the whole power into the hands of the most numerous, the lowest, and the most ignorant class. Anacharsis the Scythian expressed his surprise to Solon, that in Athens the wise had only the privilege of deliberating, while the fools decided. The vanity of the higher classes was gratified with offices and dignities, but the real power sunk into the hands of the populace. In vain was the Areopagus re-established, and a Senate created in which measures originated. Final determination lying with the people, passion, in other words propensities, carried every thing, and propensities are the engines which the demagogue wields. Continual factions agitated the people, and corruption pervaded all the offices and departments of the State. The selfish schemes or jobs of individuals, often as foolish as they were profligate, took the place of rational legislation, and the best citizens were sacrificed who ventured to oppose them. Such was the ladder by which Pisistratus climbed to sovereign power. Under his sons, Hippias and Hipparchus, the Athenians might have been more peaceful; but Harmodias and Aristogiton resolved to restore what they called the liberties, but truly the popular turbulence, of their country. Hipparchus they assassinated for succeeding to his father's authority, and Hippias, justly banished for his tyranny, gratified his lower feelings by bringing upon his country the

propensities of a million of Persians. The Peloponnesian war of Pericles was a period of pride, cruelty, treachery, and bad faith; and ended, as all human undertakings no better based must end, in defeat, disgrace, and humiliation. Both Athens and Sparta were reduced to the last stage of abject weakness by Mantinea, where the meteor-star of Epaminondas was quenched in victory, and the short-lived glory of Thebes extinguished. The spirit of patriotism, selfish as it was among the Greeks, was gone in Athens and even in Sparta. The refinements of luxury were the national pursuit in Attica. Poets, comedians, musicians, and sculptors, were all in all, and Greece fell an easy prey to Macedon, and ultimately to Rome.

The fine arts coexisted with all these glaring defects in the moral position of the Greeks, external and internal. In phrenological language, Ideality was a faculty of great power and activity among them, with Imitation and the Knowing powers. They were architects, sculptors, painters, and poets. Their defect being in their moral more than their intellectual endowments, philosophers, orators, and historians, sprung up among them. The theories of their philosophers were conceited and unpractical, and did not establish principles tending to social improvement; but great intellect and genius were displayed in them. Selfish passions ruled the community, in spite of Aristotle, Plato, Zeno, and Epicurus; and Demosthenes could not save his country from Philip and Alexander. His eloquence, we shewed in a previous paper (Vol. V. page 165), addressed no feeling higher than the national pride and vanity; and if song be "the eloquence of truth," the poetry of the Greeks, and the same is true of that of the Romans, rarely soars to that highest region; but, with all its imagery, polish, and elegance, speaks to the inferior sentiments, and often directly to the propensities themselves. The Greeks, being a highly intellectual people, made some progress in physical sciences and the mathematics, and even in a rude political economy, called by them Economics,—a progress on which modern genius has built till it has forgotten its original instructors.

Having tarried so long in Greece, we must be more brief with Rome, in whose internal history it is a less difficult task still to shew the steady and uncompromising agency of the lower feelings of human nature, in combination, be it not forgotten, with unrivalled Intellect, which only rendered it powerful for evil.

The period of 244 years, which is said to have been exhausted in the reigns of seven kings, several of whom died by violence, has been considered too long for authenticity. It may, however, be safely concluded from the recorded examples of the Roman kings, and the abhorrence for the very name prevalent in all periods of Rome which succeeded the regal, that that form of government was not founded on a moral basis.

There was no virtue, in the proper moral sense, in the Persian people at large. A few men remarkable for benevolence and disinterestedness, no doubt, yet with a large alloy of pride, arose among them; but it has already been shown that their fellow-citizens could neither appreciate nor value such qualities. Nothing more clearly demonstrates to a phrenologist the want of Benevolence and Conscientiousness in the Persian character than this. Indeed the cruelty and inhumanity of their general policy, would have been unexcusable in a merciful and conscientious people. Were they more so, they were restless, unsatisfied, and uncontented with their own historians, and in times. This is ever the retribution which results from the supremacy of intellect and intellect was unknown to them, and rendered them nervous, fickle, and turbulent people. Archons, and Draco exemplified this, both in himself and in his absurdly ferocious laws. Athenians, as he said, were utterly unfitted, but in other words, he meant that the course legislated to the citizens was a poor one, and into the hands of an ignorant class, to Solon, that was a great misfortune. The whole of the experiment of that power to an consulate. The Gracchi introduced a law with selfish views under the mask of reformation, and their example, fatal as the attempt was to the state, was followed by a series of civil disorders, which were attended only with the commonwealth. Corruption already existed to a great extent, for Jugurtha twice determined an expiatory vote of the senate in his own favour by bribery. It was not to be wondered at that Sylla and Marius paid no respect to the rights of those who had no respect for themselves. They were rivals for the selfish object of uncontrolled power, and each in his turn massacred the Romans without mercy. The high game they played only inflamed the profligate ambition of others; and Cethegus, Verres, and Pompey, were trained under Sylla, and were apt scholars in proscription and bloodshed. Lepidus, Catiline, and Crassus, rushed on the stage, all bent upon being Syllas, and equally regardless with him of the means. But Caesar's schemes were more deeply and ably selfish than those of any of the rest. His triumvirate with Pompey and Crassus

HISTORY TESTED BY PHRENOLOGY.
The Peloponnesian war, and bad faith;
treachery, and bad faith;
Both Athens and Sparta
were as all human undertakings
no better based must end.
The spirit of luxury
was gone in
The refinements of luxury
poets, comedians, musicians,
The refinements of luxury
poets, comedians, musicians,
The refinements of luxury
poets, comedians, musicians,

was a master-stroke of preparative policy. The death of Crassus dissolved the interested connection, for Cæsar and Pompey were too evidently to each other's conviction pursuing the same selfish object, to preserve any longer even the semblance of union. The issue is well known; civil war ensued, — Cæsar crossed the Rubicon and established himself in the capital of the empire. Pharsalia extinguished, not the liberties of Rome, for these were gone, but the hopes of Pompey to be its master. Pompey fled to Egypt, where the moral was no higher; for, as a propitiatory offering to Cæsar, he was murdered on his landing by order of the ministers of the young Ptolemy, whose father owed to him his throne. Never was there a greater fallacy than that of Brutus and Cassius, that by removing Cæsar they could restore the voluntarily surrendered liberties of Rome. The people lamented Cæsar and revenged his death; and Antony, with exquisite Secretiveness and Self-Love, made an attempt to succeed him, but was forced to unite his interest with Octavius, the two forming with the wealthy Lepidus a second triumvirate; than which, a more cold-blooded, ruthless tyranny never disgraced human nature. In the frightful proscription which followed, in which 300 senators and 8000 knights were put to death, the three heartless monsters by concert agreed to sacrifice each some of his best friends to the vengeance of his associates. Antony consented to the murder of his uncle Lucius, Lepidus gave up his brother Paulus, and Octavius paid the debt with the lives of Toronius his guardian; and Cicero his friend.

The triumvirate, like other copartneries founded in selfishness, broke up whenever circumstances gave the basest of the associates the chance of reigning alone. Octavius, destitute even of personal bravery as well as generalship; and owing the victory of Philippi to Antony, seized the advantage of the latter's self-abandonment to love to work his ruin, which he effected at Actium. Cleopatra's moral sentiments shone forth in her desertion of her lover with her galleys in the heat of the action, and her offer to abandon him to the mercy of the conqueror. This baseness was too much even for Octavius; or, more probably, he saw that he did not require its aid, as both lovers were in his power, and he intended to have delighted the populace of Rome by an exhibition of them chained to his triumphal chariot. To the laceration of Self-Esteem which this would have occasioned, Antony and Cleopatra preferred self-destruction. Lepidus disappeared in his own insignificance, and Octavius returned to Rome sole master of the Roman Empire.

After weighing the Roman Republic in the moral balance, and finding it so greatly wanting, it would serve no purpose to bring evidence from the history of the Empire, that the character

of Rome did not improve, at least, under the sway of its imperial rulers. Every schoolboy knows the merits of the different emperors, and is well aware that, according as the prince was a man or a brute, the Roman people prospered or suffered. Unfortunately the latter character belonged to a majority of the emperors; so that, when we have taken out the names of Vespasian and his son, the Antonines, Trajan, and Adrian, very few remain under whom despotism and degradation did not more or less prevail. There was no essential improvement, however, in the Roman character. That sunk only lower and lower in the scale, and at last lost even the military ascendancy which long belonged to it. Sallust dates the commencement of this proclivity from the fall of Carthage; *Ante Carthaginem deletam, — metus hostilis in bonis artibus civitatem retinebat. Sed ubi illa formida mentibus decessit, lascivia atque superbia invasere.* The Romans were internally a wicked people, and externally a general nuisance, long before the usurpation of Julius Cæsar. "In the last ages of the Commonwealth," says the late Mr Tytler *, in his Elements of History, "avarice, unrestrained by moral principle, was the chief motive of the Roman conquests. It was sufficient reason for going to war, that a country offered a tempting object to the rapacity and ambition of the military leaders. The conquest of Italy paved the way for the reduction of other countries. Hence the Romans imported, with their wealth, the manners, the luxuries, and the vices, of the nations they subdued. The generals returned not, as formerly, after a successful war, to the labours of the field, and to a life of temperance and industry. They were now the governors of kingdoms and provinces; and at the period of their command abroad, disdaining the restraints of a subject, they could be satisfied with nothing less than sovereignty at home. The armies, debauched by the plunder of the kingdoms, were completely disposed to support them in all their schemes of ambition; and the populace, won by corruption, always took part with the chief who best could pay for their favour and support. Force or bribery overruled every election; and the inhabitants of distant states, now holding the right of citizens, were brought to Rome at the command of the demagogues, to influence any popular contest, and turn the scale in their favour. In a government thus irretrievably destroyed by the decay of those springs which supported it, it was of little consequence by the hands of what particular tyrant, usurper, or demagogue, its ruin was finally accomplished."

If this was the state of things under the Commonwealth, it was at least as bad under the Empire. There would then cease

* Professor of Civil History in the University of Edinburgh, and subsequently a Judge of the Supreme Court in Scotland.

to be need for importations of voters from a distance, no doubt, when the emperors nominated to offices, and the armies appointed the emperors; but nameless and numberless abuses, corruptions, and abominations, unknown even to the turbulent immorality of the Republic, must have prevailed, and did prevail, till Rome was sacked by the Goths, and Constantinople transferred to the Saracens.

The limits of a paper like this will not permit us to enter into modern history in search of manifestations of the propensities of the human race. We do not think that a higher character than that of wild beasts will be claimed by any reasoner, for the varieties of animalism which burst forth in the form of Huns, Visigoths, Ostrogoths, Lombards, Franks, &c., and divided the Roman Empire in Europe among them. A sort of justice seems to accompany their course of plunder and blood; for the Romans had only that measure meted to themselves, wherewith they had meted. But the hordes were not influenced even by this degree of morality, but were impelled by unmingled brute desires.

In the dark ages, it would be difficult to find one institution founded in mercy, or any feeling higher than a rude and despotic justice, or artificial honour, the offspring of chivalry. Christianity, with its humanizing powers, was for centuries intercepted, and the most all-pervading and debasing system of fraud which ever cheated mankind substituted in its place. A dense and noxious fog interposed between the nations of Europe and the vivifying rays of the morality of the Gospel. A political or rather geographical equality in several of the greater states, since the time of Charlemagne, has prevented conquest, in the Roman sense of the word, with one recent but brief exception. But the spirit has never ceased, and the nations of Europe have always conquered where they might. And down to our own times, and in our own country, although, since the Reformation, Christianity and the progress of knowledge have done much for morals,—and we have judicial justice, generally impartial legislation, and public and private benevolence, all to an amount to which ancient nations were strangers,—education has still reference mainly to a life of selfishness. Selfishness is the rule and liberality the exception; the impartiality of legislation is often sacrificed to the interests of classes of legislators, or to the passions of their constituents; juries themselves are not always to be trusted; benevolence, and of course acts of beneficence, are confined to a small part of the community; the slave-trade is but a few years abolished; the mitigation of slavery in the West Indies is still resisted; absurd and destructive monopolies, founded in selfishness, burden the country; Acquisitiveness, to its own ruin, overlabours the working classes;

ninety-nine in every hundred of the population are grossly ignorant; while the crimes arising out of ignorance are revengefully and absurdly punished, instead of being prevented.

All this is animalism yet essentially inherent in society. With all our self-gratulation on our civilization, we have much to do before we can be said to have escaped from barbarism,—comparative, no doubt, but, in the undoubted predominance of the inferior feelings in life private and public, still barbarism. Our foreign relations have greatly more of justice and mercy in them than those of the Romans. We were *forced* to conquer all India, to preserve a part which we had taken on Roman principles, because it was a tempting possession; we do not, however, make war for conquest now, at least in Europe. We lately mainly contributed to relieve Europe from the grasp of a modern conqueror, whom his unreflecting panegyrists have lauded as another Cæsar or Charlemagne; and we are only beginning to think—and well we have been schooled into the opinion—that war is an intolerable evil, and military glory a luxury that requires much regulation*. In nothing, finally, do we more manifest our propensities than in our jealousy of the prosperity of other nations, and the many paltry and suicidal exclusions by which we seek to prevent it. We wish, then, on the whole, that we had failed to make out the proposition with which we started, that human affairs, and that with too little qualification down to our own day, is a chronicle of the animal propensities,—including, as we early reserved power to do, in that term, what are phrenologically denominated the lower, and therefore selfish, sentiments.

Secondly, How ought history to be written and taught? On this other branch of our subject we must be brief; and, because of the exposition already submitted, there seems no need for amplification. We must assume that those to whom history is addressed are not mere recipients of its facts, which are soon forgotten; but prepared, by a competent knowledge of the human faculties, to compare history with some standard of good sense and right feeling. History is too soon taught: it ought not to be the fruitless task of childhood, but the study of minds competently improved. So prepared, when they open the page of the historian, they should find that he has written under the direction of an enlightened philosophy of mind and human nature, and a sound practical ethics: that he has considered history a record of the manifestations of the faculties of man, and, aware of the marked line between the moral and the animal, has classed events according to their relation to the one of these or the other; exalting the former as worthy of approbation and imi-

* We look forward to an opportunity of doing justice to the labours of the Peace Society in a future Number.

tation, and reprobating the latter according to their place in the scale of that vice or crime to which they all essentially belong. One thing it would then be found that the judicious historian had done in the very outset, namely, had seen it to be an unavoidable consequence of an enlightened discrimination, and felt it to be an imperative duty, to sacrifice at the altar of morals what has been too long, to the heavy cost of mankind, blindly worshipped, the false splendour of the Greeks and Romans,—a worship too unequivocally indicative of a sympathy in ourselves with the lower feelings from which that vicious splendour arose ;—and, tracing through all their ramifications and tortuosities to their ultimate retribution, acts fundamentally immoral or criminal, had sternly refused to them the slightest shelter from universal execration in the most dazzling feats of heroism, the most munificent dispensation of plunder; or the finest taste or most gorgeous magnificence.

The very reverse of all this is to be found in most historians, down to a very recent period. It is not in the ancient chronicles of the deeds of their own country, Homer, Thucydides, Herodotus, Xenophon, or Quintus Curtius, Sallust, Livy, and Tacitus, that we should expect to find a nice discrimination of lower and higher motives, and justice, in the proper sense of the word, done upon the conquests of rapine and cruelty perpetrated by their countrymen. But the pedagoguism under which we place our youth, itself miserably blinded, puts these authors into the hands of boys utterly unprepared to appreciate them duly ; tells you that ancient history should be imbibed at the fountain head, and cannot be imbibed too early ; and, without one warning word, holds up to imitation the spurious virtue of antiquity called patriotism, blows the too easily kindled flame of military ardour—first practised in the play-ground in the mock contests of Achilles and Hector—expatiates upon conquests, renown and glory, and ministers to that passion for war which has so long cursed mankind.

Ancient history requires, to begin with, great and judicious abridgment. This will necessarily follow a just discrimination of its details. It will not be the less advantageous that much of the earlier part of it is fabulous, and that throughout it is exaggerated and mixed with falsehood. To minds prepared as we have suggested, details of barbarism and blood will be intolerably tedious and monotonous. False glare being at an end, volumes filled with re-enactments of the same animal manifestations will no longer be endured. After exhausting Asiatic and Egyptian selfishnesses, sensualities, cruelties, and brutalities, a repetition of the very same abominations *mutato nomine*, in Grecian annals, and yet again, when disgusted to saturation with these, in Roman, would be a most irksome task,

and a miserable waste of time. In a judicious abridgment nothing really valuable, even as matter of warning, should be omitted; nothing which marks the development of the faculties, and the progress of human improvement, with of course the motives of action and the events in their connection and sequence, as effects from causes; while all the varieties of injustice, individual and national, should receive their right names, and fraud, treachery, aggression, robbery and murder, which we abhor when perpetrated in private life, be given over to tenfold reprobation when committed on a large scale, when millions are murdered by an Alexander or a Cæsar, kingdoms plundered and nations enslaved. In this precautionary way ancient history may be rendered useful. The race would retrograde instead of advancing, if there were not much to avoid in the actings and doings of men who lived when the world was greatly younger and less experienced than it is now. "The wisdom of our ancestors"—an entity of doubtful existence at any time—becomes a perfect solecism when it draws back to the eras of positive barbarism. In the progress of civilization details will necessarily amplify themselves. The dark ages—with the exception of those singular manifestations of excited animal propensities and morbid veneration, the Crusades, which have done much good as warning beacons—scarcely possess any interest founded in utility; but, from the revival of learning and science, the working of the faculties is full of lessons; and from the Reformation downwards the history of England is replete with instruction. But even of it an enlightened morality would reform the inculcation, and allot more discriminately than is often done, their proper places, according to a sound philosophy, to the characters, and to all the important acts, customs, and institutions, of our predecessors. Thus would the character of history be greatly exalted, and its utility increased. When it had less of war, it would have more of the concerns of society's natural state, peace; and would become less a mere chronicle of kings and governments, and more an extended picture of the progress of the human race,—a valuable record of experience, holding the relation to the philosophy of man of a gradual induction of facts, capable of being systematized into practical principles, of beneficial application to every department of human affairs.

ARTICLE VII.

CHOLERA MORBUS—EFFECTS OF IGNORANCE AND KNOWLEDGE.

THESE are still individuals, although their number is not great, who conscientiously believe that the mind literally resembles a sheet of white paper, and that evil as well as good requires to be impressed on it from without, before it can exist within; and who, therefore, deprecate the communication of knowledge to the general body of the people, on account of the errors which, they conceive, must always accompany it. These persons consider a blank mind to be in a better condition than one impressed with that mixed knowledge of truth and error, and of good and evil, which is inseparable from human conceptions. The phrenologist, on the other hand, perceives that each faculty is an independent instinct attached to a particular organ; that it acts spontaneously; that there is a sphere of activity for each, consistent with morality and happiness; but that there is also a still wider sphere of abuse, leading to misery and destruction. An instructed mind is one in which these instincts are directed according to the principles of religion and morality, and in conformity with the nature of the external world; while an uninstructed mind is one in which each faculty is left to direct the conduct according to its own blind impulses, and to run counter to the order of creation much more frequently than to act in accordance with it. The conduct of the peasantry in Hungary, and of the Board of Health in Edinburgh, on the subject of the Cholera, affords a striking example of the different effects of ignorance and knowledge. The following accounts are dated on the frontiers of Hungary, 1st September:—

“The suspicion that the Cholera was caused by poisoning the wells was universal among the peasantry of the counties of Zips and Zemplin, and every one was fully convinced of its truth. The first occasion arose in Klucknow, where, it is said, some peasants died in consequence of taking the preservatives; whether by an immoderate use of medicine, or whether they thought they were to take chlorate of lime internally, is not known. This story, with a sudden and violent breaking out of cholera at Klucknow, led the peasants to a notion of the poisoning of the wells, which spread like lightning. In the sequel, upon the attack of the estate of Count Czaki, a servant

of the chief bailiff, was on the point of being murdered, when, to save his life, he offered to disclose something important; he said that he had received from his master two pounds of poisonous powders, with orders to throw it into the wells, and, with an axe over his head, took an oath publicly in the church to the truth of his statement. These circumstances, and the fact that the peasants, when they forcibly entered the houses of the landowners, everywhere found chlorate of lime, which they took for the poisonous powder, confirmed their suspicions, and drove the people to madness. In this state of excitement they committed the most appalling excesses. Thus, for instance, when a detachment of thirty soldiers, headed by an ensign, attempted to restore order in Klucknow, the peasants, who were ten times their number, fell upon them; the soldiers were released, but the ensign was bound, tortured with scissars and knives, then beheaded, and his head fixed upon a pike as a trophy. A civil officer, in company with the military, was drowned, his carriage broken, and chlorate of lime being found in the carriage, one of the inmates were compelled to eat it till he vomited blood, which again confirmed the notion of poison. On the attack of the house of the Lord at Klucknow, the Countess saved her life by the most piteous entreaties; but the chief bailiff, in whose house chlorate of lime was unhappily found, was killed, together with his son, a little daughter, a clerk, a maid, and two students who boarded with him. So the bands went from village to village; wherever a nobleman or a physician was found death was his lot, and in a short time it was known that the High Constable of the county of Zemplin, several Counts, Nobles and Parish Priests, had been murdered. A clergyman was hanged because he refused to take an oath that he had thrown poison into the well; the eyes of a countess were put out, and innocent children cut to pieces. Count Czaki having first ascertained that his family was safe, fled from his estate at the risk of his life, but was stopped at Kirchtrauf, pelted with stones, and wounded all over, torn from his horse, and only saved by a worthy merchant, who fell on him, crying, "Now I have got the rascal." He drew the Count into a neighbouring convent, where his wounds were dressed, and a refuge afforded him. His secretary was struck from his horse with an axe, but saved in a similar manner, and in the evening conveyed with his master to Leutschau. The steward of Count Czaki was killed, his chief bailiff bound, thrown on the ground, and beaten till half dead, after which he was dragged to a smithy, where he was bound to a bench, and the soles of his feet were burnt with irons, which some peasant women made red hot. The entreaties of the wife and sister of the bailiff seemed only to increase the rage of his tormentors. But

enough of these horrible scenes. Those here mentioned—and they are but a few from the counties of Zips and Zemplin—will suffice to give an idea of the mad rage of a people, hitherto kept in a state of ignorance and brutality, as soon as it breaks its fetters for a moment."

This is a faithful picture of the organs of Combateness and Destructiveness, acting with the most energetic vigour under the excitement of fear and self-love, without the slightest controul from the moral sentiments or intellect.

The following advertisement, proceeding from the Board of Health in Edinburgh, affords an admirable contrast to the dark scene of Hungarian barbarity.

"*Board of Health Office, 27th January 1832.*—The disease which has been gradually spreading over the neighbouring towns and villages, having now reached this City, it becomes necessary to raise immediately very considerable funds, in order to enable the Board of Health adequately to provide for the present emergency.

"From the precautionary measures which have been in operation for the last three or four weeks, under the able directions of their Medical Members, the Board anticipate the happiest results in the treatment of the disease.

"Of the Church collections, amounting to nearly L. 1500, the sum of L. 750 has been set apart for fitting up and partly maintaining three temporary hospitals, 1st, At Queensberry House; 2d, At Brown's Close, Castlehill; 3d, In Drummond Street; calculated to contain 160 patients. In the two first, the beds have been ready for the reception of patients for above a week, and the Board invite the inhabitants to inspect the accommodation that has been there provided for the poor. Means have also been taken for preparing without delay two other hospitals for the southern and northern districts of the City.

"Six Soup Kitchens have been provided in various quarters of the town, where above 5800 quarts of soup, and upwards of 6500 rations of bread, are supplied daily, at an expense of L. 100 a-week. This system, as well as the distribution of clothes and coals to the necessitous, must be continued on an enlarged scale, as affording the best probable means of confining the ravages of the disease among the poor within moderate bounds, on which may depend the safety of those who are in easy or affluent circumstances.

"The cleaning and white-washing of the houses has been found necessary to a greater extent than was anticipated, and has been attended with very considerable expense; but all the expenditure is submitted to a Finance Committee, by whom the accounts are examined before being paid.

"The Board appeal to their fellow-citizens on this trying occasion, with the utmost confidence, both on the plea of private charity, and of the public health; nor did it require the assurances of unlimited support which they have received from all quarters, to satisfy them that ample funds will be cheerfully provided to any amount that may be required.

"It is obviously impossible to form any thing like an accurate estimate of the sum that may be eventually necessary; but, judging from the extent and duration of the epidemic in other places, the Board are of opinion, that at least L. 6000 or L. 7000 should be immediately raised, a sum which will not fall heavily on any, if fairly distributed over the community; and they beg to mention, in consequence of many inquiries as to the amount of subscriptions expected from individuals, and without meaning to dictate to, or to limit the benevolence of any, that a payment of L. 2, 10s. from each house rated in the police-rental at L. 100, and from others in the same proportion, may be expected to produce the above-mentioned sum.

"The Board have applied to the Ministers and Kirk Sessions to make application at the houses in their respective parishes, so that the opportunity of contributing may be as general as possible; and subscriptions will also be received at the Banks, and by the Treasurer of the Board, for the accommodation of those who may prefer that mode of payment, and, in particular, of the Insurance Companies, and other Public Bodies, several of whom have signified their intention of contributing largely.

"Happily the disease has not come upon us unawares, as when first it visited England; by weeks of anxious thought and active exertion, an extensive precautionary system has been organized, for which no time has been afforded in other places. The improved condition of the poor as to food and clothing,—the ventilation and cleaning of their houses,—the police arrangements for the exclusion of vagrants,—hospitals fitted up with the necessary establishment of attendants of every sort,—litters prepared for the conveyance of the sick,—stations for the distribution of medicines within every man's reach,—the division of the city into districts, under the gratuitous care of above 100 medical men, including names of the first eminence in the profession,—a reserve of about 40 or 50, ready to be directed on the district that may be first attacked,—all that the skill and humanity of the medical members of the Board could suggest, with the advantage of the experience of other places, has been done for this city.

"Let but the same good providence of God, which has afforded the means and the time for their preparation, bless their further exertions, and the prayers and the exertions of each in-

dividual in his station, and it is not presumptuous to hope that the plague will soon be stayed. The funds to be placed at the disposal of the Board of Health, will enable them to continue their operations with increased vigour. A second report is this day published, containing additional information, and detailed advice; and it is confidently expected that the inhabitants of Edinburgh, far from giving way to unreasonable apprehensions, will await the disease with calmness and resignation, and act, when it comes, with fortitude and humanity.—By authority of the Board,

W. G. CUNINGHAM, *Secretary*."

The energetic means here used to remove the natural causes of the pestilence, and the wise provision made for mitigating it when it should arrive, exhibit man in his proper character of a rational being, and afford to a reflecting mind a more eloquent eulogium on the advantages of knowledge than pen can write or tongue utter.

There is one point, however, on which we think many of our countrymen are still imperfectly informed. They are too apt to view the Cholera, without reference to its physical causes, as entirely a judicial visitation from God, for the sins of the people, which may be averted or mitigated by repentance and supplication. Without meaning in the slightest degree to undervalue prayer and supplication to God, used on proper occasions and for becoming purposes, we shall endeavour to remove some erroneous notions concerning the connexion between Cholera and Sin.

We regard the world to be governed by fixed laws, which are adapted by Infinite Wisdom to the faculties of man. The faculties of man are of the nature of instincts, capable, when duly applied, of acquiring knowledge, and distinguishing between right and wrong, but unless properly applied, nearly useless as guides of conduct. The knowing faculties become acquainted with the qualities and appearances of external objects, and the faculties of Comparison and Causality enable us to trace their modes of operation and effects. Uniformity in the order of external nature, is essential to the practical exercise of these powers; and the phenomena of disease must proceed according to fixed laws, as well as the motions of the tide, and the revolutions of the seasons, otherwise man could not, as a rational being, accommodate his conduct to his circumstances by the aid of reason, which is his first duty. As we are discussing the Cholera, let us draw our examples from the animal system.

It is composed of bones, muscles, nerves, and organs of respiration, digestion and circulation. Each of these perform certain functions. Under-action of any of them is disease, and over-action of any is also disease; while the due and harmonious operation of the whole constitutes health. They all stand

in definite relations to the external world. A certain proportion of oxygen and nitrogen in the atmosphere, is adapted to the healthy action of the lungs; a certain range of temperature is consistent with the healthy action of the circulating system, and all temperatures either above or below the limits of that range are injurious. Certain kinds of external substances nourish the body; while other substances derange the digestive functions, and produce death.

There can be no disease without under or over action of one or more of the corporeal functions, and that action must arise either from causes situated in the organs themselves, or from external influences operating injuriously on them. Bodily organs are material, and act according to certain laws; while external objects are material, and affect the body also according to fixed principles. The feature in the cholera, which distinguishes it from common diseases is, that the causes of it are almost entirely unknown. The most skilful physicians have not discovered whether it proceeds from a certain state of the organs themselves, or whether an external influence is applied to the body, which induces the disease; but no man who is acquainted with the order of nature and the constitution of the human frame, can doubt that the cholera must proceed from one or other of these sources.

If we suppose a person to cut his finger by accident, he would shew little wisdom if he neglected the usual applications of surgery, and resorted to prayer as a direct means of healing it. If he applied the necessary surgical remedies, experience shews that the finger would heal whether he prayed or not. In making this observation, we mean no disrespect to religion; we are evolving a principle in the government of the world, the right understanding of which is of much practical importance both to religion and to morality. In like manner, the leg of the most desperate blasphemer, if he were sober and temperate in his habits, and possessed a good constitution, when broken by accident, would heal just as the leg of the most pious Christian would do, if both were exposed to the same treatment. In short, the human body, as a collection of organized matter, is governed by laws peculiar to organization. On the same principle, if two persons, having that feeble constitution of lungs which attends hereditary liability to consumption, should marry, their children, by inheriting, under the physiological laws, a similar constitution of lungs, would be liable to the same disease, however ardently and sincerely the parents might have prayed to God that such a calamity might be averted from them. Nothing short of a *miracle* could prevent the laws of nature from taking their course, and parents, who had disregarded a known institution of the Creator, would have little warrant to expect any such interposition in their behalf.

This order of creation, so far from infringing on the Divine government, constitutes the highest proof of its actual existence and efficacy. The Creator having bestowed intellectual faculties on man, by means of which he may observe the order of nature and its effects, has prescribed duties in regard to the treatment of the body, and established diseases as a punishment for non-fulfilment of them; and the inefficacy of prayer while the physiological conditions of health are neglected, is an intimation that the Divine Governor intends inflexibly to maintain his laws; which being wisely instituted, he could not abrogate without injury to man himself.

To adapt the physiological laws which govern health to the nature of man as a moral and religious being, these laws must harmonize with the dictates of morality and religion. And, accordingly they do so in the most admirable manner. The connection between the moral and the physical constitution of man has been conspicuously brought to light by Phrenology. We have said, that if a reckless contemner of religion were sober and temperate in his habits, and possessed a good constitution, his broken leg would heal as kindly as that of the most pious Christian, if both were subjected to the same surgical treatment; but this is very nearly an impossible supposition. The character of a contemner of religion implies preponderating animal with deficient moral and intellectual organs, and the natural tendency of this combination would be to impel him to sensual indulgences and reckless conduct, which would impair the tone of his bodily organs, impede their functions, and create nervous irritability; so that when his leg was broken, the accident would fall upon a system physically deranged. His impatient temper, or, in other words, the activity of his organs of Combativeness and Destructiveness, would be unfavourable to repose, and that from these natural causes, without any special act of Divine Providence, his chances of a speedy recovery would be diminished. The piety of the other individual would naturally induce in him a habit of body and a temper of mind the opposite of that which has now been described, and if their constitutions were originally equal, the injury equal, and the surgical treatment the same, the morality of the one would cast the balance in his favour, while the immorality of the other would turn it against him.

In this view of the Divine administration, the interests of religion and morality are maintained, and reason is satisfied;—in short, such an order of things appears suited to the moral and intellectual faculties of man as a rational being. There are religious persons, however, for whom we have much respect, who prefer the notion that God, by a special act of Divine grace, interposes in favour of the pious, and restores him

in answer to his prayers; while he withholds the return of health from the sinner as a direct punishment for his transgressions. This view of the Divine government naturally excites Cautiousness, Wonder, and Veneration, but it imposes an interdict on intellect, and obstructs the investigation of nature; or, at least, it invests the study of it with no utility, and holds out no advantages as its reward.

According to our view, the object of prayer in this case ought to be, that we may be enabled to discover and fulfil the natural conditions on which health depends, in the full faith that when we have done so, that blessing will be conferred, because Divine Providence has promised it as the invariable result of that obedience. If health be withheld, we receive it as an intimation that our constitution has been fundamentally enfeebled by imperfections in our parents, or that we are still, through ignorance, or folly, or perversity, living in opposition to the conditions with which alone the Creator has connected that blessing. On the principle that the moral and physiological laws are in harmony with each other, it follows that all practices which are sanctioned by morality, religion and intellect acting in combination, are favourable to health, and *vice versa*. The scope of our doctrine is, that the different laws of nature are independent of each other, that a physiological result cannot be obtained from a merely moral and religious cause; in other words, that fasting and prayer, however commendable in themselves, will not afford protection against any disease, except in so far as fasting, which is abstinence from food, or prayer, which is a state of mind attended with a certain condition of the brain, exercises a physical influence on the organs of the body.

A few illustrations of this doctrine will render it intelligible. A pious maiden aunt said to her nephew, "Johnny, if you learn your questions in the catechism well to-morrow, you shall have a nice piece of *bun* (*anglice* indigestible cake) to tea in the evening, being Saturday, when your cousins come to visit you." Johnny, who was a quick boy, learned a whole page of the most abstruse portion of the Shorter Catechism, and claimed, obtained, and ate the bun. His aptitude in learning arose from an active brain, which at all periods of life is often accompanied with feebleness in the digestive organs; and the bun lay like a stone in his stomach, and kept him awake most of the night. He slept in church very much next day, notwithstanding every exertion of his aunt by shaking and pinching to keep him awake. In the Sunday evening he began his usual task of learning another page of the catechism; but his brain, through indigestion and want of sleep, had lost its activity, and he made no progress. Dreading his aunt's displeasure, he made great efforts; but as the physical conditions on which healthy action of the

brain depends were absent, no effort of the will could supply their place, and the only effect of his anxiety was to excite a flow of blood to the head, and give rise to flushing of the face and throbbing of the temples, accompanied by increased obscuration of the mental powers. At last Johnny began to cry, and declared that he had got toothach. His aunt now opened on him the floodgates of her wrath, and told him in an angry tone that he saw what he had brought on himself "by sleeping in the kirk;" that God had sent him the toothach as the punishment of this great neglect of duty. Johnny sobbed and suffered, and was put to bed, fell fast asleep, and rose on Monday morning recovered from toothach and indigestion; but twenty years did not obliterate from his mind the painful impressions of the divine administration of the world which that day had produced.

The errors of this treatment are apparent. The task in the catechism was too abstruse for the child's comprehension; and nature was violated in asking him to learn it at all. The necessity for the bribe of the bun arose from this want of adaptation of the task to the mental powers; and the bun, by its own qualities, was calculated to obstruct the stomach, lower the tone of the brain, and render the boy unfit to learn; or, in other words, to defeat the end in view. The want of sleep on the Saturday night was the natural consequence of indigestion, and sleeping in church was the equally natural result of that deprivation; and, lastly, the toothach arose legitimately out of the disordered stomach and excited condition of the brain. The worthy aunt here committed a whole series of blunders, and crowned the whole by the superstitious and unfounded intimation that the toothach was the punishment of want of respect to God shewn by sleeping in the church. If this lady had studied the laws of physiology in her youth, or been instructed in them by her clerical guide, she would have cleared up the ways of Providence to her nephew with far greater success; but these ways cannot be rightly comprehended without a knowledge of the various parts of which man, as an organic, moral, and intellectual being, consists, of the mode of operation of each, and their mutual relations.

Suppose two ladies to be of the same age, and to be equals in constitution, rank of life, and all external circumstances, but that one, Miss Lovebook, dedicates three hours of each forenoon to searching the Scriptures, private meditation, and prayer; while the other, Miss Gadabout, spends the same time in walking in Prince's Street, and making calls for her fashionable acquaintances; if in all other actions of their life their conduct was the same, we would say that Miss Gadabout would be much more likely to enjoy the blessings of health than Miss

Lovebook ; because, in walking in the open air, and talking vivaciously to her friends, she obeyed the natural conditions on which free respiration, a vigorous circulation, and complete digestion depend ; while the pious devotee, by sitting in the house and studying, would neglect these conditions. If by prayer the blood could be rendered florid and stimulating without oxygen, the world would no longer be adapted to the observing and reasoning powers of man ; because the same effects would result from different causes, and intellect would find neither object nor connexion in nature, on the operation of which reliance could be placed. If digestion and muscular action, which are purely corporeal functions, could be promoted by merely reading the Scriptures, without exercising the organs on which the functions depend, this would be a total subversion of the laws which now regulate organized beings. No person of ordinary sense will seriously maintain that religious exercises could have such effects ; but every teacher of religion who recommends and practises prayer in cases of sickness, without clearly expounding its inefficacy unless accompanied by fulfilment of the natural conditions on which health depends, really leads his flock *practically* to commit the errors here described. Every day's experience shews that gross ignorance of these conditions co-exists with much and sincere piety. We knew a mother who, when her daughter was seized with typhus fever, in place of sending for a physician, read the Scriptures to her at her bed-side for a whole day, and prayed during greater part of the night, and thereby endangered the life of her daughter more seriously than the disease itself.

The real advantage which Miss Lovebook would enjoy would be this. Her habits indicate active moral and intellectual faculties, while those of Miss Gadabout betoken active vanity and an inactive intellect. The former would be in a condition to profit by all rational instruction, if it came in her way, while the latter would be prone to be misled by every temptation ; the former would probably lead a quiet and orderly life, suffering only the pains of indigestion and mental languor as the punishment of neglecting exercise, but not subject to great danger from mortal disease ; while the latter, in all the giddiness of unreflecting levity, would probably flourish night after night at balls and in crowded assemblies, and might on some unlucky occasion catch a cold, or lay the foundation of a fever that would carry her to the grave. The former, if instructed in the laws of physiology, might obey them, and acquire health and vivacity, and at the same time increase in piety and usefulness. The latter would be far removed from the tendency to acquire knowledge, and be little prone to amendment by either instruction or experience. She would continue ignorant through life, and the chances would be

numerous that her want of information and reflection would sooner or later expose her to some serious evil.

The application of these principles to the case of prayers against the cholera is easily made. Repentance of sin in general, as of vanity, or love of money, or pride, or of fraud and lying, as means whereby to induce Providence to avert cholera, is to us incomprehensible, if not accompanied with some physical application calculated to act on the body. These and all other sins ought to be repented of, because they are sins, and all sins carry their own punishment; but reason can see no connexion between issuing a forged bill, or demanding sevenpence for a yard of cloth which ought to be sold at sixpence, or telling a lie on the Stock Exchange, and the irregular action of the blood-vessels, nerves, and muscles of the body. If God should at times send diseases like the cholera, which are purely organic, as a punishment of sins which are purely mental; and if He removes these diseases on our supplication independently of physiological causes, then He has given us reason in vain; for we cannot discover the connexion between the sin and the disease; and to act on any principle which cannot be perceived by reason appears to us to be delivering ourselves over to superstition. Accordingly, we do not view cholera as the punishment of sin in general, and especially it does not appear to us to be the chastisement of unbelief. In India, it slew Hindoos; in Persia, worshippers of fire; in Egypt, Mahommedans; in Russia, Greek Christians and Jews; in Austria, catholics; in Berlin and Hamburg, protestants; while in England and Scotland, it has attacked Lutherans and Calvinists without the least discrimination. We conclude from these facts that no form of faith affords a protection against it, and therefore that it cannot be sent as a punishment of erroneous belief on religious subjects.

One great cause of its formidable aspect, is ignorance; for it is owing to this that human skill is so impotent before it. The smallpox afforded an example of a similar kind. A preventive of that disease existed all along when its ravages were most afflictive, but men had not carried their researches far enough into nature to discover it. Their prayers were offered in vain, till vaccination was found out and applied, and then the evil was arrested. This and many other examples ought to prompt us to pray for removal of our ignorance, and for rapid progress in knowledge. We are surrounded by agents showering on us good or evil, according as we use them, and ignorance is the most perilous condition in which we can remain.

The most obvious sin with which cholera appears to be connected, is intemperance, with its concomitant irregular habits, and debased condition. Intemperance injures the digestive organs, lowers the vigour of the brain, enfeebles the organs of cir-

culatation, and relaxes the muscles. In short, it prepares the whole body for the inroads of disease. If there exist in the earth or air any influence prejudicial to health, a constitution thus debilitated will first give way before it. Physicians in general declare, that the first appearance of the disease, in any new district, is in the persons of drunkards. Let us pray, then, that we may resist intemperance, and all physical disorder, and let us actually do so, and there is every reason to expect that our prayers will be heard, and the disease will be averted.

It is said, however, that it attacks also the pious and sober, and kills them as rapidly as drunkards. There are a few examples of such persons falling victims; but the sin which the disease punishes in the higher classes, when it attacks them, appears to us to be neglect of the moral and physical condition of the people. The upper classes employ the lower orders as hewers of wood and drawers of water, pay them the stipulated hire, and then separate themselves from them, as if they were inferior beings. The cholera, however, reads this lesson to the higher classes, that they ought not, for their own sakes, to allow the poor to sink into helpless degradation and misery. In availing themselves of the labour of the people, they must live in the same town, and meet in the same streets with them; and hence when pestilential diseases invade the one, they naturally involve the other in their effects. This is the social law of Providence, and one of the forms in which he visits those classes with punishment whose selfishness permits the degradation of the poor.

Indirectly, the cholera may be viewed as a punishment of covetousness, ambition, and a self-seeking worldly spirit; but it appears to be so only in so far as the eager pursuit of gain leads to the existence of large manufacturing towns, and a crowded population, degraded by low wages, long hours of labour, intemperance, and general misery; such towns form a soil on which cholera, or any other epidemic disease, may naturally flourish. This view is still in harmony with reason; for it leads us to a physiological cause of the evil, and shews an intelligible connexion between it and the effect; whereas the notion that Providence is punishing, in an arbitrary manner, sin in general, obscures the judgment, fosters superstition, retards knowledge, and throws discredit on religion, in the eyes of reflecting men. These superstitious notions can exist only along with gross ignorance of the constitution of nature, and blindness to the true power and goodness of God.

The *Spectator* recently observed, that "the men on whom the Tower of Siloam fell were not sinners above all Israel;" neither was he who was born blind so visited for his parents culpability; although the ignorant and unthinking among the

Jews and the Christians also, as Mr Perceval would have us believe of the cholera, attributed these accidents to the particular interposition of Heaven." Our explanation of these evils is this,—the law of gravitation caused the Tower of Siloam to fall, because it was not properly supported, gravitation being a purely physical influence, acting on its own principles, and not connected, in any direct manner, with moral agency. The invariable action of gravitation is essential to the stability of the globe; and, to have made it accommodate itself to the moral qualities of men, would have rendered all the operations of architecture and science impracticable. A sinful tenant might have caused a strong house to fall, while a pious occupant would have supported a tottering fabric. Again, blindness depends on the condition of the eye, optic nerve, and part of the brain; the cause of a child's being born blind is an organic lesion of one or more of these parts happening before birth; and there is no direct connexion between a purely mental sin, committed by the parents, and the lesion of these parts in the offspring. These explanations place Scripture and philosophy in strict accordance, and do not derogate from the moral government of the world. They only shew that gravitation is a physical and not a moral law, and that the eye, being an organ of sense, may be deranged independently of moral transgression. There is nothing in Scripture that warrants the notion that the effects in both instances did not arise from their natural causes.

We conclude, in the words of a contemporary, "Can the clergy lay their hands on their hearts and declare before their flocks that they have zealously patronized learning and useful education in their parishes; that they have taken care that in the schools under their direction, the most improved methods of teaching, such as are practised by Wood, Wilderspin, and Pestalozzi, should be adopted, and that the instruction conveyed should be such as to open up the intellects of the people to the perception of God's power and goodness in creation, and to the necessity, under his laws, of practising cleanliness, temperance, and activity of body and mind, as preliminaries to the enjoyment of health? Have the clergy patronized institutions for the instruction of the adult population, in useful knowledge? Have they encouraged temperance societies? Have they taught from the pulpit not merely precepts, but that correct knowledge of human and physical nature which is indispensable to the due execution of moral and religious precepts? Have they shewn to their flocks that man is a rational and progressive being, and taken the lead in every path that conducts to social improvement?"

Let it not be forgotten, also, in viewing the ways of Providence, that if cholera shall remove chiefly the intemperate, and

the feeble members of society, it will cut off so many fountains of imperfection, from which, but for its visitation, many wretched children would have been born to suffer misery themselves, and to inflict it on another generation. The fear of the disease, also, is calling forth such an active interest in the rich in behalf of the poor—is leading to such great efforts in promoting cleanliness, temperance, and orderly habits, in large towns, which promise to leave permanent effects—and is giving such vigour to all the highest principles of mind, that posterity will probably recognise Cholera as a blessing to them, whatever it may appear to us.

ARTICLE VIII.

ON SUPERSTITION.

(From a Clerical Correspondent.)

WHAT a tenacious hold on the human mind has superstition ! Many who are well educated, and perhaps heartily join in railing at its disgusting forms, are themselves not entirely free from it in the shape of some nursery or other early instilled notions. To mention a very common one : Friday is considered a most unlucky day on which to undertake certain important affairs ; insomuch, that few women (who, perhaps, generally are more disposed to superstition than men) would choose to be married on a Friday I well remember the case of a couple being often mentioned as a remarkable exception, who, though wedded on a Friday, have turned out very happy and prosperous. I have witnessed, moreover, a lady who had requested a friend to cut her nails, suddenly withdraw her hand because she recollected it was Friday.

My thoughts have been led to this subject by the recurrence of a curious ceremony, usual, I am told, amongst the great perpetuators of credulity and superstition—nurses. A new-born child must by all means go up stairs before it comes down, and accordingly mine has just been carried several steps up stairs as a preliminary to its first descent from the second floor. I cannot divine the origin or meaning of this superstition, unless it be connected with the unpropitious circumstance of being born in a cockloft. But the old ladies can cheat Dame Fortune even in this case, the act of mounting a chair being considered sufficient to break the spell. The inherence of these little superstitious fancies is well accounted for by Phrenology. We recognise a primitive organ for the manifestation of faith in things not

present; a faculty absolutely necessary with respect to the every day affairs of life, and a deficiency in which produces an embarrassing and provoking general scepticism; but more especially a highly important ingredient in religion, for, "Without faith it is impossible to please God;" it is, as it were, "the substance of things hoped for, the evidence of things not seen" as yet. The Creator has, accordingly, so formed the human mind, that the due manifestation of faith is a necessary ingredient in the perfect man. But it is with this as with every other primitive faculty, whether moral, intellectual, or affective, by which last term the propensities have been designated: not only does the undue restraint or neglect of any one detract from the perfection of man, and tend to produce an unhealthy, irregular, or dissatisfied mind; but likewise, of course, the indulgence of any one without due subordination to the rest, produces a like disorder and mischief; and hence, among other evils, credulity and superstition.

Let us now endeavour to trace the great irregularities and corruptions of the human mind. We may suppose that man was created perfect, *i. e.* with perfectly well proportioned and healthy organs of mind and body. He gave way, however, to temptation, and, under the influence of this violent disruption of his equanimity, and the evil incurred by it, in which we may easily conceive vexation, wrath, and desperation, might take possession of the minds of either or both parents, a child was conceived, who, we are told, turned out a murderer.

Now, be it observed, the organ, the abuse of which excites to destruction, was, from its peculiar development in animals of prey and in several murderers examined by Gall, named by him the organ of Murder. Dr Spurzheim has called it Destructiveness, and shewn that, however apparently bad a principle, its moderate manifestations are essential to life and due energy of mind. In process of time, "when men began to multiply on the face of the earth," the descendants of Seth, tempted by the flesh, intermingled their blood with the corrupt descendants of Cain, and thus corruption increased and over-spread the earth. The history of man, in short, in all ages, indicates the natural ebbs and flows of this corruption. The engrossing indulgence of the affections, in their excess now called passions, allowed the moral and intellectual faculties to dwindle away into savage life. Revelation, however, kept up a few that did not bow the knee to Baal; a few, too, perhaps, were preserved amidst the general degeneracy by philosophy, like seeds ready at a future period to germinate and bring forth fruit abundantly. The reign of the passions gave way to the milder, yet equally blind and ignorant, reign of the moral and affective faculties, uncontrolled by sound reason and intellectual research.

For the revelation afforded the principles of pure light and truth, the wild imaginations and passions of men gave a false colour and complexion to religion, because reason was not yet exalted to its due influence over the mind. Hence, in short, the true reign of superstition,—men still loving mystery and darkness rather than truth and light. The time, let us hope, is advancing, when reason, being emancipated and suffered to expand, men will continually increase in true knowledge, goodness, and charity. But man progresses by generations principally, little comparatively can be expected in changing the nature of individuals. The grand object is to lay the foundation for improved generations to come, and nothing appears better calculated for this purpose than to convince mankind how much the character of their offspring depends, not only upon the general dispositions, but also upon the prevailing bias of the parents' minds; for there is little doubt that the various diversities of character in the same family depend much upon the prevailing tempers and pursuits of the parents at corresponding periods of their lives. It cannot be by arbitrary appointments, or irrespective decree, that one is naturally inclined to virtue, another to vice; one born with good intellectual faculties, another the reverse; let us not hasten such notions of arbitrary and mysterious appointment, but rather let us study the laws of nature; and, bearing in mind that revelation proceeds from the same unvarying source, let our passions and appetites be kept in due bounds; thus, the moral and religious faculties being regulated also by the intellect, this due dependence and subordination of all the faculties, will ultimately subdue for ever all remains of credulity and superstition, brooding melancholy, and fanaticism, as well as all other evil and corruption. It is interesting to observe how the organ of Marvellousness or faith gives complexion to a man's religion. One who has a large share delights in, and dwells continually upon, the mysterious parts of religion, which he renders more mysterious by his mode of treating them; another will not discuss, but rather slights every thing mysterious, making all religion to consist in deed and truth. It is unnecessary to point out, on the one hand, the least injurious fault; or, on the other, that which is, for obvious reasons, most popular.

The proportion of native Benevolence, too, and Destructiveness, have considerable influence in a man's religion; for a deficiency in the former, with a large proportion of the latter, will lead their professor to recognise a severe, if not a cruel, creed, where the reverse character only sees mercy, forgiveness, and love.

Hope, too, has a great influence. But I have already too much prolonged this discursive essay; so, with thanks for your kindly admitting this, I conclude by subscribing myself

A PHRENOLOGIST.

NOTICES.

LONDON.—In the printed prospectus of the London Mechanics' Institution, dated 2d December 1831, we find Phrenology included as a regular subject of study. It is taught by mutual instruction. There are classes also for Literary Composition, Chemistry, Mineralogy, and Political Economy, which are taught in the same manner; "care being taken in all cases to make the students active searchers after knowledge, rather than passive recipients of the information of others." On 6th and 13th January, Mr J. L. Levison delivered, at the Institution, lectures on insanity, based on phrenological principles. Our readers will recollect that, some years ago, Mr Combe offered to deliver a course of lectures to the mechanics of the School of Arts in Edinburgh, but the Directors politely declined this proposal.

LIVERPOOL.—The Literary and Philosophical Institution of Liverpool has allowed the use of one of its rooms to the Phrenological Society of that city for the accommodation of the casts, and for the meetings of its members.

LEEDS.—On 2d December 1831, a paper, termed "A Phrenological Analysis of the Theory of Dreams, Spectral Illusions, and some of the more usual Phenomena of Mental Derangement," was read before the Leeds Philosophical and Literary Society, by Dr Alexander of Wakefield.

EDINBURGH.—The Phrenological Society continues to meet in Clyde Street Hall; and an account of its proceedings will be given in our next Number. A package has been received from M. Schwartz of Stockholm, containing miniature busts of Werner and Dr Gall; with a mask and the cast of a skull, of which we shall be glad to learn the particulars from the donor. The bust of Werner presents a very large development of the Knowing organs. The same conformation occurs in the bust of Pliny, which we have seen in the Radcliffe library at Oxford.

NEW SOUTH WALES.—*Extract of a Letter from a Young Settler in New South Wales to his Mother.*—"How is Phrenology getting on? Here the intelligent part of the community and the leading men are on its side; but society is too much disjointed by party spirit, to permit of people clubbing together for any purpose where self-interest is not immediately in question. I often see hits at it in the country papers, but not worth noticing. A very severe attack, however, appeared some months ago, denouncing it on the score of encouraging infidelity and bad morals. This roused your son, who replied to it; and though it was his first attempt at composition, was fortunate enough to be very highly complimented, both by the editor, and, as I have since been credibly informed, by one or two gentlemen holding official situations, and who are looked up to as men of talent. There was no rejoinder, and no more attacks have since appeared. The signature was, of course, fictitious."

TO OUR READERS.—We occasionally receive complaints of the most opposite kinds from our readers. One, for instance, informs us, that our continual repetition of the principles of Phrenology, and the history of the reception of the discoveries of Galileo, Harvey, and Newton, is tiresome, and gives an air of sameness to the work, which detracts from its interest; while another writes us that we not only assume every point of doctrine as established, but appear to imagine that every reader is as familiar with it as ourselves; in short, that we do not dedicate half enough of space to elucidation of the principles and history of the science, so as to instruct the reader and carry him along with us. These observations are quite natural from the different persons from whom they proceed. We have some subscribers who have attended lectures on Phrenology, studied all the elementary works, examined hundreds of heads and casts, and read this Journal from the first number to the present publication; in short, who know as much of Phrenology as ourselves; we have others who have read the Journal for a longer or shorter time, but never studied the subject in a systematic manner; and lastly, there is a considerable class of readers whose studies have commenced only with the number of the Journal last published, and who know nothing

beyond what it contains. Each of these classes wishes us to write the Journal for itself; whereas it is our duty to suit it, as much as possible, to all of them. We, therefore, solicit the indulgence of our best informed friends for our repetitions, because the views are new and interesting to many individuals into whose hands the work is placed for the first time, by those who desire to extend the knowledge of the science; and we equally beg the forbearance of our latest disciples, for writing some articles in each number for those who are farthest advanced in their attainments.—We have been told also, that it is not judicious continually to reproach the “great in literature and science” with the demerit of condemning Phrenology; that it would be wiser to withdraw public attention from the false position in which they have placed themselves, that they might quietly escape from it, which they can never do, as long as their movements are closely observed and publicly proclaimed. If we saw the slightest symptom of any of these men making the *amende honorable* to science, if history warranted us in expecting that they ever would do so, and if letting them alone did no injury to the sacred cause of truth, we should be most happy to follow the counsel here given. But we see no reason to entertain any such expectations. We consider it no slight demerit in the “great in literature and science,” that they, while avowedly ignorant of the physiology of the brain, and of any useful philosophy of mind, have, without one moment’s serious and candid investigation, set themselves to deride Dr Gall himself as a quack and impostor, and to denounce his discovery as synonymous with every thing that was unfounded and absurd; that they have sent him to the grave branded with disgrace, so far as their condemnation could attach it, in place of being rewarded as one of the greatest benefactors of his race; that they have shut the gates of honour and preferment, so far as their influence extends, against Dr Spurzheim, whose discoveries, talents, and virtues, place him second only to Dr Gall; and that they have obstructed, for a whole generation at least, by the weight of their authority, the improvements in education, religion, medicine, criminal legislation, and social institutions generally, which a sound philosophy of mind, based on the physiology of the brain, *must* carry along with it, because it emanates from the Creator. The vituperation of posterity will come too late to reach the enemies of Phrenology; the injury will have been endured, and the perpetrators will have escaped, before the avenger arrives. Those who blame us for expressing now, while the evil is in progress, and the authors of it alive, those sentiments which the best and most enlightened men of subsequent generations will utter with a voice of still deeper condemnation than ours, really ask us to surrender justice to unmerited courtesy, and to bow before misapplied authority, instead of exposing its hollowness and mischievous effects. Perhaps we estimate the magnitude of the injury inflicted on society by these individuals, more highly than many of our readers, because we perceive more clearly the immense extent of labour and time that have been, and will be, required to remove the obstructions which they, in the pride of their hearts and darkness of their understandings, have reared up against the progress of truth. If, in the year 1803, Dr Thomas Brown had done justice to Dr Gall’s discovery in the *Edinburgh Review*; or if Dr Gordon had given a veracious description of it in 1815, would the readers of that work have been now wading through the mortal thirty pages of dreamy absurdities entitled “characteristics,” which appear, in its latest Number, as the philosophy of mind? or would they be generally, at this moment, the most determined opponents of the new philosophy, although in other respects the most enlightened of the British public? The efforts requisite merely to undo the mischief perpetrated by folly and ignorance might, if otherwise directed, have served to impart some positive and valuable instruction to the public mind. Thanks to the “great in literature and science,” our labours are confined, in a great degree, to removing the rubbish which they have strewn on the paths of truth. It would have been a more pleasing task to have aided them in planting the seed and gathering the fruits of real knowledge, but they willed that it should be otherwise, and we submit to our fate, and discharge our humble duties, although not without repining at the consequences of their ignorance and perversity.



THE
PHRENOLOGICAL JOURNAL.

No. XXXII.

ARTICLE I.

ON THE HARMONY BETWEEN PHILOSOPHY AND
RELIGION.

THE article on Cholera in our last Number has excited some interest in our readers, and we have been frequently asked how we reconcile the existence of fixed and regulated laws of nature with the efficacy of prayer? We shall endeavour to express our views as briefly and clearly as possible on this important subject.

The human mind consists of observing and reflecting powers, animal propensities, and moral sentiments. The observing faculties take cognizance of existing objects and events simply as they present themselves; while the reflecting powers perceive the relations existing among them. The reflecting faculties, joined with the moral feelings, constitute man's rational nature, and distinguish him from the brutes. Powers of action are conferred on man, by using which, under the guidance of his observing and reflecting intellect, he may subjugate external nature to a prodigious extent to his sway; and where this power is denied him, he may still, by studying the order of nature, accommodate his own conduct to its course, so as to reap advantages from its operations. Several conditions are necessary to render this arrangement beneficial to man: *First*, External nature must be regular both in its elementary constitution and course of action: This we shall assume to be the case; because every well ascertained fact in philosophy proves it to be so, and because the denial of it implies a charge of want of design and intelligence in the Creator, which we entirely reject. *Secondly*, The human mind and body must be constituted with a wise adaptation to the course of external nature: Every step in

science affords additional proof that this proposition is true, and we assume it to be so. *Thirdly*, The human faculties must be in harmony with each other: If one feeling, legitimately directed, gave us a desire for an object, and another, also legitimately directed, an aversion to it; or if one portion of our intellect represented a certain course of action as calculated to lead to happy consequences, while other faculties induced us to perceive that the result would be disastrous; we could not possibly act as rational beings. If our elementary faculties were in their constitution contradictory, they could never enable us to discover which course we ought to follow, nor to feel satisfied with any mode of proceeding after we had adopted it.

The regularity of nature is admitted by every individual in the least acquainted with philosophy. We have heard Dr Chalmers from his Divinity Chair expound and illustrate most eloquently the doctrine, that the material universe is regulated by fixed laws, which guide the minutest particles, as well as the most ponderous masses of matter, in their movements. He distinguished between the unascertained and the uncertain. The laws of the motions of the planets, for example, have been discovered, and philosophers can with certainty predict their positions and appearances at any future hour. The motions of a minute drop of water dashing over a mountain precipice are not ascertained, and, it may be, not ascertainable, by human observation; but they are equally certain as those of the mightiest orb that rolls in the boundless regions of space. That atom of matter obeys the laws of gravitation, attraction, and repulsion, as precisely as the earth observes her laws of motion in her circuit round the sun. In a sermon preached in St George's Church on 22d March, Dr Chalmers is reported in the newspapers to have said, "As far as our observation extends, nature has always proceeded in an invariable course, nor have we ever witnessed, as the effect of man's prayer, Nature diverge from her usual course; but we affirm the doctrine of a superintending Providence as wide as the necessities of man."

The reflecting intellect of man is delighted with this view of the constitution of external creation; because, if the adaptation of the world to human nature be wise and benevolent, every step in knowledge must necessarily be one in happiness and virtue. The faculty of Causality in particular, which has received its desires and powers of perception from the Creator, requires order and arrangement for its satisfaction. A world in which regularity of cause and effect was designedly wanting, would be in contradiction to a mind in which a faculty of Causality was implanted by the Creator; and this is a position which appears to us to be unassailable. There are some brains in which the organ of Causality is so small that the perception of causation, and the de-

sire to trace it and rely on it, are extremely feeble, and these will probably dissent from our present reasonings; but it is equally irrational to assume the perceptions of such individuals as standards of philosophical truth, as it would be to determine the importance of music as an art and science by the opinions of a person extremely deficient in the organ of Tune.

Man has also received from the Creator sentiments of Veneration, Hope, Wonder, and Ideality, which, combined with Conscientiousness and Intellect, render him a religious being. These faculties prompt him to inquire after, reverence, and love a Superior Being; in short, to acknowledge and obey a God.

The problem which we are now attempting to solve is to reconcile the perceptions of Causality, which instinctively demands regulated order in all objects and events, with the desires of Veneration and Wonder, which love a God, doing according to his good pleasure in the armies of heaven and among the inhabitants of the earth. It is clear that no opinions in philosophy and religion can become practically useful which do not satisfy both orders of faculties. If we shall embrace a system of necessary causation without a God, our religious sentiments will remain unsatisfied; while, if we shall establish a belief in the superintendence of a particular Providence on such principles as to contradict the perceptions of Causality, we shall offend the strongest dictates of reason; and by neither means can we arrive at that internal harmony of feeling and perception which is essential to enjoyment, and also to the practical direction of conduct.

It appears to us that the Creator has constituted and arranged the external world, and the human mind and body, with admirable wisdom and benevolence in their reciprocal relationship; and that the efficient power of a particular Providence is exercised by the perfect action of the general laws which He has established. In other words, that the general laws are so complete that they rule every individual case in the best manner; so much so, that the result which they produce in each instance could not be varied without departing from the dictates of benevolence and wisdom. This proposition will be best understood by means of practical illustrations.

Let us suppose that the father of a large family is seized with consumption, and is in danger of dying, and that the prayers of many a believing and loving relative are offered to the Throne of Grace for his recovery; those who contend for a special providence, independently of general laws, expect that these prayers will be heard, and that, if God see it profitable for the patient and his family, he will restore the sufferer to health.

According to our idea, the first point of inquiry that presents itself is, whence did the condition from which deliverance is

craved, originate? Consumption is a diseased affection of the material substance which composes the lungs; and we ask, did God command that organ of the body to depart from its healthy condition, to decay, and, by its imperfect action, to destroy the health of its possessor, with a view merely to shew forth the power of his Providence in taking away or restoring to health the patient according to his good pleasure; or did he imprint a definite constitution on the lungs, one result of which is liability to disease from certain irregularities of conduct, and did this particular affliction arise out of that liability in the ordinary course of physiological action? The latter is our proposition. Physiology shews that the lungs, if originally well constituted, and subsequently wisely treated, will operate in a sound condition till the natural period of decay in advanced age; and that whenever, in individual instances, their substance decays in early or middle life, this evil may be traced to an inherent deficiency in strength, inherited from a feeble parent, or to undoubted infringement of the natural conditions on which healthy action has been made by the Creator to depend. There is nothing arbitrary, therefore, in the state of the sufferer. It is the consequence of departure from physiological laws, instituted apparently of deliberate design by the Deity; and the object of the affliction appears to be to induce men, who, having received intellectual faculties are bound to use them, to study and obey the laws of health, and abstain from all practices tending to impair their lungs; and if they shall have unfortunately violated this duty, to forbear transmitting an enfeebled constitution to posterity. Providence, we may presume, could have entirely prevented the descent of imperfection, if He had seen proper; and some may complain of sufferings arising from inheritance as extremely unjust to the offspring; but whenever the parent has obeyed the organic laws, the children inherit the reward in possessing fine constitutions; and it appears to be part of the divine plan, that where the parents have violated them, the children should endure part of the penalty in inheriting feeble frames. The parent having received rational faculties, was bound to use them, and he neglected to do so at the highest peril to his offspring.

The recovery of the afflicted parent, in the case supposed, means the cessation of decay in the material organ diseased. Now, as this organ, to adapt it to man's rational nature, has received a definite constitution, in virtue of which it becomes disordered from certain kinds of treatment, and maintains itself in health, in certain other circumstances; the object of the prayer may be, either that Providence will, in this instance, dispense with all the established laws which regulate the condition of the lungs, and restore the patient to health without fulfilment of

the natural conditions ; or that the patient and his advisers may so study and obey the divine laws as to discover and apply the established means for bringing back his lungs into a prosperous state. The latter appears to us to be the legitimate object of prayer ; and it is calculated to satisfy both Veneration and Causality. Veneration is gratified by the recognition of Divine Providence in the establishment of the laws which regulate the action of the lungs ; and Causality is pleased by the perception that their operations are characterized by regularity, benevolence and wisdom.

The great error fallen into by those who object to this view, is, that they lose sight of the fact, that the condition from which deliverance is asked by means of prayer, is one brought about by the Creator himself, in the perfect knowledge of all its consequences. If a poor man feel disposed to pray for riches, he ought to consider the causes of his poverty, and he will find that they are incapacity, inattention, ignorance, recklessness, or some other deficiency in himself, in his circumstances, or in those persons with whom he is associated ; and according to our view he ought to set about removing these causes before his prayer can have effect. If a parent is afflicted with a profligate son, and pray for his amendment, he ought first to examine his own conduct, and see whether that child does not date his existence from a day when the parent gave himself up to riot and debauchery, or to passion, or to some insensate pursuit ; and if he find this to be the case, he ought to regard his son's immoral dispositions as the personification of his own sin, and view himself as the chief cause. He ought next to consider whether the education bestowed, and example set, have been conducive to the child's improvement. He will discover that his dispositions have an origin which leaves no stain upon the goodness of Providence. It is no disparagement to the Divine Being, to say that he has bestowed on man lungs, which, if properly used, will successfully execute their functions for seventy or eighty years ; but which, if improperly treated, will waste at an earlier age ; when it is added, that He has also bestowed upon human beings faculties capable, when duly applied, of discovering and fulfilling the conditions necessary to their healthy action, and of avoiding the causes that lead to premature decay. Our view implies that the laws of nature have, every one of them, a beneficial tendency, when properly understood and obeyed ; and that every particular evil which afflicts any individual man, arises from infringement of one or more of these laws, in his progenitors, himself, or his associates, perhaps through ignorance, perversity, or incapacity. In many instances this can be demonstrated : Although, owing to the existence of vast regions of unexplored territory in the natural world, many instances of evil occur, in which the precise operation of the natural laws cannot be traced ; yet these are the regions of the un-

ascertained, and not of the uncertain. The region of the uncertain would be one in which the elements of nature had received no definite constitution, and acted under no established laws. We have no authority for supposing that the regularity and perfection of the divine government terminates at the point at which our knowledge of it ends. Every generation that unrolls an additional chapter of the volume of natural knowledge, will acquire new proofs of wisdom and goodness ingrained in the constitution of creation.

If a widow have an only son at sea, and he be overtaken by a storm, and she pray for his deliverance, what will be the effect? We observe, in the first place, that, on the supposition that the Creator has regulated the action of the elements in conformity with his divine goodness and wisdom, the storm is no arbitrary or accidental occurrence. It is a great result of great causes, instituted and directed by Supreme Wisdom, and operating for unquestionable good. Man's intellect is sufficient to inform him, that storms do occasionally blow at sea, and he is bound to keep proper instruments for indicating their approach, and also to construct his ship and to manage it with skill sufficient to meet their violence, or stay on dry land. In the general case, the vessel will not sink unless she be too feeble to resist the winds and waves, be unskillfully managed, or have been brought too close upon a rock or shore. The individuals on board may have acted up to the utmost of their knowledge and power; but the course of Providence seems to require, not only that the individuals should do their best, but that they should do all that is necessary by the constitution of nature to bring about the end desired. If they cannot do this, they should not try the adventure. British ships ride triumphantly through seas and storms, in which Chinese junks would sink to the bottom; and since steam-engines were applied to navigation, a new power has been gained to avoid shipwreck, and render shores less fatal to the mariner. "The marine barometer," says Mr Arnot, "has not yet been in general use for many years, and the author was one of a numerous crew who probably owed their preservation to its almost miraculous warning. It was in a southern latitude. The sun had just set with placid appearance, closing a beautiful afternoon, and the usual mirth of the evening watch was proceeding, when the captain's order came to prepare with all haste for a storm. The barometer had begun to fall with appalling rapidity. As yet, the oldest sailors had not perceived even a threatening in the sky, and were surprised at the extent and hurry of the preparations; but the required measures were not completed, when a more awful hurricane burst upon them than the most experienced had ever braved." "In that awful night, but for the little tube of mercury which had given the warning, neither the strength of the noble ship, nor the skill and energies

of the commander, could have saved one man to tell the tale*." If Providence supplied the deficiencies of human skill when the limits of individual knowledge were attained, there would be no premium offered by the order of creation to the advance of the race in the cultivation of their own faculties, and the study of the institutions of nature, duties implied in the very idea of a rational being. If Providence, in answer to prayer, had enabled sailing vessels to move against or without the wind, we should never have had steam-boats. The destruction by storms of weak and ill-managed ships, leads to higher attention in constructing and navigating vessels; and any relaxation on the part of the divine ruler in enforcing these requisites, would be a premium offered to human sloth and incapacity; whereas the design of the Creator appears to be, by the maintenance of a rigid but salutary discipline, to hold out rewards to men to improve themselves in knowledge, virtue and activity in the highest possible degree. This end is promoted by the destruction of the careless, when they throw themselves in the way of danger. The widow would have no means of knowing that a storm existed at the distance of thousands of leagues; but waving this objection, the object of her prayer may be supposed to be, either that Providence would arrest the storm before the ends for which it was raised were accomplished, which is not a proper petition; or that her son might sail in safety, although he had embarked in a ship not strong enough to resist the tempest, or joined himself to an ignorant and incapable crew, or had come too near the shore to be able, according to the laws which regulate the motions of ships, to avoid being driven on a shoal. If the storm be serving a great and beneficial end,—if the undeviating regularity of the laws of motion constitutes the very basis of navigation, which could not be interfered with without incalculable mischief to man himself; and if it be the design of Providence to encourage vigorous exertion, and punish rashness, ignorance, and incapacity, then we do not think that the prayer, in this form, could be answered, in consistency with any rational idea of the divine government of the world. The proper prayer, in our opinion, would be one by the young sailor himself and his comrades, that they might put forth that skill, perseverance, and exertion, which, by the established order of creation, were necessary to meet the dangers of their condition, and to navigate the ship in safety through the storm. Omniscience and ubiquity are necessarily implied in all adequate conceptions of the Divine Being, and we consider Him cognizant of every operation that takes place in the physical world; in fact, we regard all its laws as mere emanations of His will; their invariableness being the necessary result of His invariableness,

* Arnot's *Elements of Physics*, i. 350.

which is inseparable from perfect knowledge and complete power. Change for the better always implies imperfection, and change for the worse is more incompatible still with the notion of perfect wisdom and goodness. The Creator is equally cognizant of the state of mind of the devotee; and hence there is complete communion between Him and his intelligent creatures. Obedience to the laws which He has established is conformity to his will; and the beneficial consequences of obedience are purely gifts of his Grace. In all prayers, the qualification, "if it be Thy will," is expressed or understood; but the laws impressed by the Creator on external nature have not been generally recognised and taught by religious guides to the people, as manifestations of the divine will. In consequence they continue to be grievously infringed, and enormous evils ensue.

We are at a loss to discover whether this view differs or not from that which appears to be entertained by Dr Chalmers. In the notice of his sermon (published in the *Weekly Chronicle* of 24th March), he is reported to have said, "There is an infidelity abroad that would expunge the doctrine of a special Providence, and the efficacy of prayer. As far as our observation extends, nature has always proceeded in an invariable course, nor have we ever witnessed, as the effect of man's prayers, nature to verge from her usual course; but we affirm the doctrine of a superintending Providence as wide as the necessities of man. Grant the uniformity of visible nature, and how little does it amount to! We can discover the first step upward in the chain of causation, and call it the proximate, of the next, and call it the remote cause; but there are higher events in the train we try in vain to reach, which will ever lie in deepest concealment from our view; and the Deity may, by a responsive touch at the higher end of the chain of events, give efficacy to the prayer of man without the answer being visible to man, which, if the intervention were at the lower end of the chain, would render it a miracle to the eye of man. In this way, the reaction to prayer is at a place higher than the observation of philosophy can reach. All that man can see is but the closing footsteps in the series. The domain of philosophy terminates at that which we can reach by human ken. Beyond this may be termed the region of faith. At this place of supernal command, the Deity can direct matters as he will, without altering any of the visible laws of the universe."

We agree with Dr Chalmers in affirming "the doctrine of a superintending Providence as wide as the necessities of man;" because we consider every position in which man can be placed to be reached by the laws established by the Creator, and that these are constituted with such admirable efficiency and wisdom, that they meet every particular case in the best possible manner. Any special act of Providence that should produce a result dif-

ferent from that which they would evolve, would be a departure from wisdom. The Creator does not require to think twice and correct himself like men. We conceive ourselves maintaining the greatness, goodness, and absolute sovereignty of the Creator, in teaching this view; and we can conceive no other reconcileable at once with the divine perfection, and with man's rational nature. The experience of life shews that, in some instances, prayers are followed by the consequences desired, and at other times not; and it appears to us that the chief difference between Dr Chalmers' view and ours, lies in this,—that we conceive the established natural conditions to have been fulfilled in those cases in which the desire of the prayer is granted, and not to have been fulfilled when it is not granted; the order of creation having been so wisely arranged all the while that no deviation from it was necessary; whereas he appears to conceive that the Deity, "by a responsive touch at the higher end of the chain of events, gives efficacy to the prayer of man," independently of his fulfilling the natural conditions on which his deliverance depended by the established order of the universe. Dr Chalmers considers that, in this way, "the reaction to prayer is at a place higher than the observation of philosophy can reach." We should like to see this idea applied to any specific actual case. Will the Deity, in answer to the consumptive father's prayer, touch any spring of causation which will subvert the established conditions on which the healthy action of the lungs depends? If the answer is in the affirmative, we inquire whether this does not imply a direct condemnation of these conditions, as unsuitable and improper in themselves, which require to be subverted or dispensed with? If the answer be in the negative, and if we are told that the natural conditions must be fulfilled, then he and we are agreed. If he say that the Deity, in answer to prayer, will cause the natural conditions to be fulfilled, whereas, if there had been no prayer, he would have allowed the neglect of them to go on, and the patient to die; we agree also in this opinion, under certain explanations. It appears to us that when the organs of Veneration, Hope, and Wonder are large in an individual, he is naturally disposed to pray; and that the efficacy of prayer results from the established laws of his constitution, which are cognizable by reason. We shall endeavour to explain this proposition.

Let us revert to the case of the consumptive patient; if the prayer be, that he and his advisers and attendants may discover and fulfil all the conditions appointed by Divine Providence for the restoration of diseased lungs, in the full reliance on the Divine goodness that the malady has not been sent vindictively or arbitrarily, but results from infringement of physiological laws highly beneficial to man when duly observed, the effects of the prayer would be the following: The feeling of submission to

the divine appointment and of confidence in the divine goodness, and the earnest attention to all physical and moral conditions which could influence recovery, would operate in the most favourable manner on the constitution, and greatly promote that kind of action in the body from which convalescence must proceed. Prayer advanced in expectation of divine aid, independently of fulfilment of the natural conditions, would lead to indifference and inattention to these appliances, would withdraw the mind from all consideration of the causes and course of the disease, and leave to Providence the duty of performing a miracle in order to supply the deficiencies of an ignorant devotee.

Experience shows that the patient frequently dies, notwithstanding the most earnest prayers. Our explanation is, that the physiological laws, although influenced by the state of the patient's mind, do not depend on it alone, but on it and other conditions; and that in cases of death these other conditions have not been fulfilled. Providence appears to be inexorable, where too wide a departure from the appointed conditions of health has ensued. Submission, then, becomes the patient's duty and only resource.

It may be objected, that the cure would take place if the natural conditions were fulfilled, as well without prayer as with it. This must mean, that if the lungs should heal by the operation of physiological causes without prayer, the disease would be at an end; which is granted. In like manner, if inflammation should, in any particular case, subside without bleeding, the disease would be gone; but it does not follow that there is no need for bleeding in inflammation in general. The general rule is, that bleeding tends to cure inflammation; and also the general rule is, that a pious, submissive, and enlightened frame of mind promotes recovery from all diseases, by exciting that kind of action in the animal economy which is favourable to health. Prayer, by exercising the highest and best faculties, adds to the power of fulfilling the natural conditions on which restoration depends. The mind which in sickness has no conviction of the existence of a Supreme Being, no confidence in his power and goodness, and no reliance on his administration of the world, must be so shallow, reckless, pugnacious, and irrational, that it will be blind at almost every condition calculated to influence health, and will fail a sacrifice to the laws of Divine Providence, which it can neither perceive nor obey. A mind of a high moral and intellectual endowment will trust in the Supreme Governor of the world, and try to obey his laws; and the exercise of the concomitant dispositions will unquestionably promote the progress of the body's cure. In like manner, the sailor whose mind is alive to this view of divine government, who relies implicitly on a benevolent Providence for protection when he does his own duty, will be led to fulfil the natural conditions on which deliverance

from shipwreck depends, with greater alacrity and success than if his mind were obtuse and unthinking, reckless and irreverent, or ignorant and superstitious.

Where the petitioner cannot fulfil the natural conditions necessary for his deliverance, as in cases of incurable diseases and fatal shipwrecks, he ought to pray for a spirit of resignation and submission to the divine will. The rational worshipper who believes in the wise regulation of every object and event in nature by a Supreme intelligence, who sees that a part is allotted to him to perform on the stage of life, and that faculties are given to him for this purpose, will, in presence of his God, survey the objects of his approaching pursuits, and their relationship to the divine laws, and put forth an ardent wish that he may successfully discharge the duties of his appointed station. If he have faith in the perfection of the divine laws, and in their power to reach him in every position, he will be strongly led to prefer high and virtuous objects, because he must know that these alone meet with divine approval and protection; and he will experience a depth of obligation to improve his whole nature and to acquire strength, activity, and knowledge, that he may be enabled to act rightly, which can scarcely be felt where no such views are entertained. He will look for a specific cure for every specific evil, and always presume himself to be in the wrong when he suffers. Such a worshipper appears to us to be prepared for a higher discharge of duty, as a moral and intellectual being, than if he recognised no God; and his prayers will, according to the established laws of the world, conduce forcibly to their own fulfilment.

We forbear entering into scriptural discussions, for the reasons stated in our article on Scripture and Science, vol. vii. p. 321. By discussing the question on the principles of reason, we avoid wounding religious opinions, which we treat with the highest respect, and we place such implicit reliance on the harmony of all truth, that we doubt not that if we arrive at sound conclusions in reason and philosophy, they will harmonize with all sound interpretation of Scripture. In point of fact, we could cite numerous instances in which views similar to those now advocated have been expounded by divines as Scriptural doctrine. So far from regarding these principles as inimical to piety, we humbly think that Religion will never put forth half her power until she shall be wedded to Philosophy. Religion springs from Veneration, Hope, and Wonder; and when these sentiments act in opposition to Causality and the observing powers, they must remain unproductive. If the external world be constituted in harmony with reason, no sentiment, when legitimately directed, can contradict philosophy. The first and most striking effect of these principles, if carried into practice, would be a deep conviction

of the extent and danger of our ignorance, unbounded confidence in the Creator, and an eager desire to discover his laws and to obey them. Every teacher of religion, who was penetrated by these views, would feel that he was dealing forth mere husks to his people, when he taught them only duties to be performed, without showing them *how* to accomplish them : In short, Science and Philosophy would become the pioneers of Religion, and Religion would constitute the vivifying and presiding spirit of human undertakings. Man's rational powers will never display themselves in their full might, until his whole moral and intellectual faculties shall combine in one sustained effort to discover and obey the divine laws. At present clerical teachers give too little instruction to the people concerning the natural conditions which must accompany religion, to render it efficacious in temporal affairs ; an omission which can be accounted for only by the fact of the present system of religious teaching having been instituted nearly three centuries ago, when science and philosophy were unknown. At that time God was scarcely recognised, in any practical sense, as the author of external nature.

There is a vast difference between our doctrine and that which teaches that whatever is, is right : According to the latter principle, murder is virtuous, because it exists : According to our view, it is only the faculty of Destructiveness and its legitimate applications which are right ; all abuses of it are wrong. We maintain, farther, that the order of creation, both physical and moral, is arranged in harmony with this faculty, as an existing propensity, and with its proper uses ; but at variance with, and calculated to check and punish, its abuses. Every rational person admits, that, in certain instances, the efficacy of prayer is limited by the natural laws ; no old man in his senses prays to be rendered young again, although the Divine Being could easily perform this change, which would be very desirable for the aged devotee ; nor does any sensible person, whose leg has been amputated, pray that it may grow on again. The prayers in these instances are limited to a prolongation of life, with the usual accompaniments of age, and to recovery to the remaining portion of the limb, and to the general health of the sufferer. The sole reason for this limitation is, that these benefits appear to be all that the laws of our constitution, appointed by the Creator, authorise us to expect, as agreeable to his will. Our doctrine does not teach, that an amputated limb is as desirable as a sound and serviceable one ; but only that no limb requires to be cut off as the direct and proper result of observing the divine laws ; on the contrary, that this necessity springs exclusively from infringement of laws calculated to produce beneficial effects in their legitimate sphere of action, although leading to painful conse-

quences, when neglected or infringed. These laws are in themselves so admirably adapted to the human constitution, that they could not now be interfered with, the elements of physical and moral nature remaining unchanged, without injury to man himself. When we enter the regions of the unascertained in philosophy and science, many persons conceive that we have then arrived also at those of the uncertain ; or that Providence operates, in an unknown territory, in a manner different from that followed by Him in the explored domains of nature. Many men who will not expect an extirpated eye to grow in again, in answer to prayer, will think it quite reasonable to hope, that, by addresses to heaven, the cholera may be arrested by a special interference, independently of the removal of its physical causes ; or that these causes themselves may be stayed by a responsive touch of the chain of causation at a higher link than man can reach, in answer to their petitions. We humbly think that if we saw clearly the physical causes of cholera, their modes of operation, and the natural adaptation of other physical and moral causes within human reach to modify or arrest them, this expectation would appear as little warranted by true religion as the hope that small-pox should be averted by prayer without vaccination, or that after amputation a new leg should shoot forth.

In these observations, we confine our attention exclusively to the world as now constituted, after miraculous power has ceased to operate. Not one word of our argument applies to periods and places where miraculous interference was the law of the divine government. There and then every arrangement would be wisely adapted to that order of administration. If miraculous power still continued to be exercised, we would yield up reason at once, and be guided by faith alone ; but if it has ceased, and if the order of creation be now adapted to the regular development and steady improvement of man's rational nature, we subject our faith to our reason, in regard to the action of physical causes, and believe that in doing so we conform ourselves to the will of God.

ARTICLE II.

DR CALDWELL ON PENITENTIARY DISCIPLINE.

(*Concluded from p. 410.*)

WE shall now attempt to make a more direct application of phrenological principles to the discipline of prisons, and to moral education generally. But we deem it important to state pre-

viously a few facts, which occurred in England, and at sea, in 1826. They shew, by experiment, not merely the applicability, but the positive application, and the incalculable value of phrenological knowledge, to the concerns of jails, penitentiaries, and other places where criminals are confined.

In the spring of 1826, one hundred and forty-eight male convicts were removed from prison, and confined in the ship *England*, lying in the Thames, preparatory to their transportation to New South Wales. Mr James de Ville, of London, one of the most disciplined practical phrenologists of the day, undertook, at the suggestion of Mr Wardrop, a gentleman of high standing and professional distinction, to examine their heads and report on their characters. He had never before seen the convicts, nor even heard their names. Nor had he the slightest knowledge of the particular crime of which any one of them was convicted. In his report, which he placed in the hands of G. Thompson, Esq., surgeon of the ship, he specified the vicious propensity of each, and designated distinctly all the desperadoes, whom he considered most dangerous, and likely to hatch and head conspiracies and mutinies during the voyage. He indicated, in particular, Robert Hughes, as pre-eminent over all the others, in the atrocious qualities of the conspirator and the mutineer; the most daring, artful, and treacherous, and also the most instinctively blood-thirsty of the gang. He also pronounced of several of the others, that they were much to be dreaded, and admonished the captain and officers of the ship to keep them under vigilant guard, if not in strict confinement.

Subsequent events proved, that, of the hundred and forty-eight convicts, Mr de Ville was mistaken in his opinion and report of but *one*. Nor, as will appear presently, could be said to be positively mistaken in relation even to him.

In the course of the voyage, a spirit of mutiny manifested itself several times among the criminals, who were, at length, discovered to have formed a conspiracy to murder the officers, and take possession of the ship. In every instance Hughes was the leader, and his most active abettors were those whom Mr de Ville had represented as best qualified for such purposes.

The following is an "Extract from a letter of G. Thompson, Esq., surgeon of the ship *England*, to James Wardrop, Esq.," dated, "Sidney, October 9th, 1826.

"I have to thank you for your introduction to Mr de Ville and Phrenology, which I am now convinced has a foundation in truth, and beg you will be kind enough to call on Dr Burnett, whom I have requested to shew you my journal, at the end of which is Mr de Ville's report, and my report of conduct during the voyage; and likewise to the depositions against some of the convicts, who you, with your usual *tactus eruditus*, dis-

covered would give me some trouble during the voyage, and I think the perusal of them will make you laugh, as they were going to rip up the poor doctor, like a pig. De Ville is right in every case except one, Thomas Jones; but this man can neither read nor write, and being a sailor, he was induced to join the conspiracy to rise and seize the ship, and carry her to South America, being informed by *Hughes, the ringleader*, that he should then get his liberty. Observe how De Ville has hit the real character of Hughes, and I will be grateful to De Ville all my life: for his report enabled me to shut up in close custody the malcontents, and arrive here not a head minus, which, without the report, it is more than probable I should have been. *All the authorities have become phrenologists*, and I cannot get my Journal out of their offices until they perused and reperused De Ville's report, and will not be in time I am afraid, to send them by the Fairfield." See Edinb. Phrenol. Journal, Vol. iv. No. xv. p. 470.

Many facts of a similar character, several of them almost as striking as the preceding, could be easily adduced from the records of Phrenology*. On the whole of them we shall only remark, that if they are insufficient so far to attract the attention, and enlist the feelings of the public, as to induce them to make the science a subject of serious and deliberate study, a voice from above, to the same effect, would be unavailing. In fact, *they are a voice from above*; for they are truths proclaimed by Nature, who is, at once, the priestess and oracle of Heaven.

Shall we be told that, in the case here alluded to, Mr de Ville pronounced on the characters of the convicts from the expressions of their *countenances*; that he judged, therefore, as a *physiognomist*, not a phrenologist; and that any person versed in observations on the human countenance, might have been equally successful in indicating the leading propensities of the prisoners? We reply that this is a mistake. In forming his opinion Mr de Ville did not depend on expression of countenance, but on the developments of the head. Had the countenances of the individuals been masked from the eyes downward, he would have been equally successful in the discovery of their characters.

* For a knowledge of several very interesting and important facts of this description, the reader is referred to an account of Dr Spurzheim's "Visit to Hull" in December 1827. From an examination of the heads of prisoners and convicts, he specified, with a promptitude and correctness which furnished matter of astonishment, the forms of vice to which they were addicted. See Edinb. Phrenological Journal, Vol. v. No. xvii. p. 82.

For much additional information on the same topic we might further refer to Dr Gall's visit to the prison of Berlin, and the fortress of Spandau, in April 1805. Besides the Doctor's view of this visit, given in his own works, a brief account of it may be seen in the "Foreign Quarterly Review," No. III. pp. 13, 14, 15.

Physiognomy is a mere appendage of Phrenology. The predominant passions, which have their appropriate seats in the brain, produce, in time, by muscular action, their impress on the countenance. But it is the *passions only* which thus act. The strength of the *knowing* and *reflecting* faculties, i. e., the amount of *real intellect*, is not indicated by muscular expression. Hence physiognomy discloses but a *part* of the character, while Phrenology gives *the whole* of it. The former may bespeak a *disposition* to vice. But the latter points to the *kind* of vice, and testifies to the competency to lead and excel in it.

To be rendered efficient and useful in the highest degree, moral education must be conducted differently at different periods of life. In infancy and childhood, the entire moral compartment of the brain is not sufficiently developed to be competently instructed, and to give bias to character. Hence, until near the age of puberty, man is not, in reality, a moral agent; nor is he so considered, by the laws of our country.

But, fortunately for children, their organs of Adhesiveness and Imitation are so far developed, as to be convertible into sources of influence and control. By means of them, therefore, if they cannot be rendered truly moral, in *feeling* and *sensibility*, they can be retained within the pale of practical or rather formal morality and religion; they can, at least, be withheld from much of the grossness of animal indulgence. Thus will good habits of action be formed, and bad ones prevented, a state of things calculated to prove highly advantageous in future life.

Children are prone to imitation, especially where their feelings of attachment are enlisted. They can be, therefore, easily induced to follow the example and obey the precepts of those whom they love. Thus can they be early led into the paths of virtue; or rather secured in them, and prevented from straying into those of vice. It is now, therefore, in a particular manner, that they should be taught, by example, and initiated into the *practice* of moral conduct, even before they can feel the force or appreciate the value of moral precept. To such precept, however, they will cheerfully conform, when issued by the lips of those that are dear to them.

In children are considerably developed two other organs, on which their instructors may act with advantage. We allude to Cautiousness and Love of Approbation. These are the sources of the apprehension of punishment and disgrace, and the love of applause. In children that cannot be otherwise governed, and restrained from vice, these feelings should be judiciously called into action. Thus may early life be protected from habits of practical depravity.

About the age of puberty the moral and reflecting compartments of the brain are more fully developed. And it is now,

for the first time, that youth begin to feel strongly the impulse of moral sentiment, realize the force of moral obligation, and place a just estimate on moral conduct. Hence they are now recognised, in judicial proceedings, as moral agents. And hence it is by no means uncommon, for boys, who had been previously vicious and unmanageable, to become now correct and docile.

The real foundation of moral education being now laid, in the competent development of moral constitution, the superstructure must be reared and finished, as heretofore mentioned, by precept and persuasion, example and reason; by the active judicious, and uninterrupted cultivation of the moral and reflecting compartments of the brain. The study of Ethics is now doubly useful. It expands and invigorates the intellect, and strengthens the motives to praiseworthy conduct.

For a time the pupil should be so hedged around by all things that are virtuous, as to be completely protected from allurements to vice. But as his moral habits increase in strength, it is expedient that their competency be occasionally but judiciously tried, by cautious exposure. In the course of his life, and the vicissitudes of his fortune, temptations will present themselves; and it is wise that he be opportunely disciplined in the practice of resisting them. It is thus that the body becomes fortified against physical evils, by coming occasionally into contact with them. Besides, the revolting aspect of profligacy and vice has often the happy effect of strengthening moral habits, and confirming virtuous resolutions, in those who witness it. Hence the importance that when youth encounter vicious example, it should not approach them in a seductive form. If the pupil be high-minded and aspiring, his sense of honour, and his love of fame will become, at length, a guardian of his virtue. So will his personal interest, as well as his feelings toward his family and friends, whom he would not, without reluctance, offend or disgrace. These considerations, with sundry others on which a want of time forbids us to dilate, should be strenuously inculcated by the instructors of youth, as aids in the process of moral education.

To the discipline of penitentiaries, where reform is the object, most of the foregoing sentiments are applicable. If the convicts are young, both in years and vice, and the moral and reflecting compartments of their brains are even moderately developed, the prospect is promising, that, by judicious treatment, they may be perfectly reclaimed. If the developments just mentioned are strong, their complete reformation is the more probable. Even those who are advanced in years, and somewhat habituated to

depraved. His own thoughts and feelings are his only instructors, and they instruct him in nothing but vice. The school, in which he has been so long disciplined, is one of positive immorality and corruption. That this is true, appears, we think, from the following considerations.

We have already stated, and now repeat, that, in high and habitual offenders, the animal compartment of the brain preponderates. The *ruling passion*, therefore, is purely animal, and inclines only to vice. Nor, when they are alone, will the entire current of their feelings fail to follow it. In such beings, when left to themselves, and surrendered up to the dominion of their own depraved appetites and passions, it is proverbially true, that

"Imagination plies her dangerous art,
And pours them all upon the peccant part."

Instead of dwelling on the obligations of morality, the beauties and blessings of religion, the value of industry, and the merit of good works, feelings, and sentiments, to which they are as entire strangers as the cannibal in his orgies, or the tiger in his jungle, the bent of their souls will be toward their former courses of crime, and all their thoughts will be directed to the devising of means for their more successful renewal, when time shall have liberated them again, to disturb the repose, and prey on the fruits, or otherwise assail, the welfare of society. Thus will their animal propensities alone be strengthened, at the expense of their other faculties; every change in them will be from deep to deeper depravity; and, at the expiration of their confinement, they will issue forth on the community, more consummate villains than they were at the commencement. Thus, to habitual culprits, is solitary confinement, as already mentioned, a school of vice. To the correctness of this representation the well-known principles of human nature abundantly testify. Leave to himself and his own imaginings a thief or a robber, long practised in the work of felony, and theft or robbery, with new and improved schemes for perpetrating it, will constitute exclusively the theme of his thoughts. If this is not true, observation is fallacious, and all reasoning on the subject nugatory.

To the reform of convicts, then, judicious and active education is essential. And, to prove effectual, it must be the longer continued, and the more strenuously pressed, in proportion as the subjects of it are the worse organized, and the more inveterately practised in guilt. It is thus that at school, the dunce requires, for his improvement in letters, more labour in the teacher, and a greater length of time, than the boy of sprightliness; and that the wound which has long festered, is more difficult to heal than that which is fresh.

that here, as in all other cases, experience, wisdom, and common sense, should suggest means, and direct practice. The paramount end of judicial punishment is the protection of society. The good of the many and the virtuous must prevail over both the sufferings and the enjoyments of the vicious and the few. If, then, it be established, on satisfactory evidence, that beings such as we have described cannot be reformed, they should be regarded as *feræ naturæ*, and treated accordingly; confined in cages during life, or sentenced to the gibbet. Nor, as relates to the wisdom and justice of the policy, is it of the slightest moment, whether their propensity to crime is the offspring of matter or mind. It exists and is immutable; and society is entitled to protection from its influence.

That they may be strengthened and prove fruitful, all the organs and compartments of the brain must be exercised in the manner, and by the impressions, that are suited to their natures. Inaction and sloth as certainly enfeeble them as they do the muscles. In strict solitary confinement, therefore, where day follows day, week week, month month, and year year, in one dreary, dead, and monotonous succession, without the least excitement from instruction, it is idle to expect even the shadow of amendment. As well might we expect improvement, without exercise, in muscular dexterity and strength; or as well expect the convict to acquire, with his hands bound and muffled, higher excellence in penmanship, or an augmentation of manual dexterity in any of the arts. Of such a course of discipline, or rather want of discipline, deterioration is the inevitable effect. Moral improvement does not consist in the mere absence of vicious acts. It is something positive; something consisting in action; and that action is of a specific kind. It is as much the product of education, as improvement in mathematics, or any other branch of knowledge. But education, to be productive and useful, must be administered within the walls of a prison, precisely as it is within those of a schoolhouse. The organs and faculties of the pupils must be suitably exercised, according to the kind of instruction required. If they are not, their march will be retrograde. They not only will not acquire more, but they will lose what they already possess. This is a law of nature. It appears to us, therefore, not a little singular, that highly intelligent and practical men should have ever dreamt of reforming criminals, by mere solitary confinement. Compel an atrocious and habitual malefactor to labour in a cell, uninstructed, or to remain there, without either labour or instruction, for twenty years, and he will be no more moral or virtuous at the end of his imprisonment, nor any more fitted to live peacefully and innocently in society, than he was at the beginning of it. On the contrary, it appears to us incontrovertible, that he will be more

depraved. His own thoughts and feelings are his only instructors, and they instruct him in nothing but vice. The school, in which he has been so long disciplined, is one of positive immorality and corruption. That this is true, appears, we think, from the following considerations.

We have already stated, and now repeat, that, in high and habitual offenders, the animal compartment of the brain preponderates. The *ruling passion*, therefore, is purely animal, and inclines only to vice. Nor, when they are alone, will the entire current of their feelings fail to follow it. In such beings, when left to themselves, and surrendered up to the dominion of their own depraved appetites and passions, it is proverbially true, that

“Imagination plies her dangerous art,
And pours them all upon the peccant part.”

Instead of dwelling on the obligations of morality, the beauties and blessings of religion, the value of industry, and the merit of good works, feelings, and sentiments, to which they are as entire strangers as the cannibal in his orgies, or the tiger in his jungle, the bent of their souls will be toward their former courses of crime, and all their thoughts will be directed to the devising of means for their more successful renewal, when time shall have liberated them again, to disturb the repose, and prey on the fruits, or otherwise assail, the welfare of society. Thus will their animal propensities alone be strengthened, at the expense of their other faculties; every change in them will be from deep to deeper depravity; and, at the expiration of their confinement, they will issue forth on the community, more consummate villains than they were at the commencement. Thus, to habitual culprits, is solitary confinement, as already mentioned, a school of vice. To the correctness of this representation the well-known principles of human nature abundantly testify. Leave to himself and his own imaginings a thief or a robber, long practised in the work of felony, and theft or robbery, with new and improved schemes for perpetrating it, will constitute exclusively the theme of his thoughts. If this is not true, observation is fallacious, and all reasoning on the subject nugatory.

To the reform of convicts, then, judicious and active education is essential. And, to prove effectual, it must be the longer continued, and the more strenuously pressed, in proportion as the subjects of it are the worse organized, and the more inveterately practised in guilt. It is thus that at school, the dunce requires, for his improvement in letters, more labour in the teacher, and a greater length of time, than the boy of sprightliness; and that the wound which has long festered, is more difficult to heal than that which is fresh.

It is not unimportant to observe, that if, in addition to a large animal development, the felon has also a large development of the organ of Firmness, the prospect of his reform is the less promising. The function of this organ, as its name indicates, is to render the individual steady and inflexible in his opinions and sentiments, whether true or false, and in his course of conduct, whether virtuous or vicious. It is situated immediately under the sagittal suture, near its posterior extremity. Its large development produces a fulness or protuberance of the skull adjoining and directly above the point denominated, in common language, the crown. Add to this what has been designated as the ruffian form of the head, and the development for vice and depravity is complete.

It has been already observed and is now repeated, as a matter of great moment, that where the reformation of the convict is meditated, neither labour nor instruction must be enforced as a task, or inflicted as a punishment. Every kind of employment in which he is required to engage, must be not only voluntary in him, but rendered agreeable to him. Whatever is enforced by punishment or dread, is necessarily odious, and will be abandoned, in disgust, on the earliest opportunity. It will moreover be subsequently remembered with increased abhorrence, and a stronger resolution against its adoption. To man, in his present cast of mind, even the felicities of Paradise would become offensive, and be rebelled against, were they forced on him contrary to his inclination. As heretofore stated, then, the convict should be indulged in labour, as a relief and amusement in solitude, that he may learn to love it on account of the gratification it affords him, and the health he derives from it; and instruction should be dispensed to him, on the same principles, and with the same views. Nor should the labour be either degrading in kind, or severe and oppressive, from the extent of the task. In either case it will be hateful, and never become productive of industrious habits. Hence a more hopeless instrument of reform than the tread-wheel can scarcely be imagined. It may subdue for the moment, but can never radically amend. On the contrary, it engenders feelings unfavourable to virtue.

Culprits are but perverse and wicked children; and the more deeply and exclusively you punish and disgrace them, you harden them the more, and render them the worse. Many a forward and stubborn boy is driven, by harsh treatment, into vice and ruin, who, by mild and judicious training, might have been bred up to industry, usefulness, and honour. In like manner, the harshness and cruelty of an under-keeper, himself even lingering on the borders of crime, and awaiting but a slight temptation, and a suitable opportunity, for the actual commission of it, may confirm, in the convict, vicious propensities, which, by

proper discipline, might have been thoroughly corrected, and rendered subservient to virtuous purposes.

In saying that the moral and religious instructors of criminals should be themselves moral and religious, we shall probably be regarded as uttering one of the tritest of truisms. But we intend by the position more perhaps than is at first apprehended. Our meaning is, that the teachers should be *constitutionally* moral and religious; that both the moral and reflecting compartments of their brains, but especially the former, should be fully developed.

That this opinion is both true and important, can be shown, if we mistake not, on well settled principles; and we know, from observation, that, in analogous cases, experience has confirmed it.

It is a law of nature, as immutable as the pointing of the needle to the pole, or the lapse of water down an inclined plane, that the language and true expression of any organ or compartment of the brain, in one individual, excite to action the corresponding organ or compartment in another. This is the natural and only ground of the influence of eloquence; and the true reason why the passions are contagious.

One individual addresses another in the words and tones and gesticulations of anger; or, to speak phrenologically, in the language and manner of Combativeness. The consequence is known to every one, and is felt to be natural. The same organ is excited in the individual addressed, and he replies in the same style. From artificial speech, and empty gesture, the parties proceed to blows, which constitute the greatest intensity of the natural language of the irritated organ; its *ultima ratio*, in common men, as an appeal to arms is in the case of monarchs.

Urged by Destructiveness, a man draws on his enemy or his comrade a sword or a dagger, and is instantly answered by a similar weapon, in obedience to the impulse of the same organ. This meeting of weapon with weapon is not the result of reason. The act will be performed as promptly and certainly, generally much more so, by him whose reasoning powers are dull and feeble, than by him in whom they are active and strong. It is the product of instinct; the reply, in its native expression, of the excited organ of Destructiveness in the defendant, to the expression of the same organ in the assailant.

When Demosthenes roused the Athenians to war with Philip, he harangued them in the intense language, burning thoughts, and bold and fierce gesticulations of Combativeness and Destructiveness combined. And had he not so harangued them, he would never have impelled them to the field of Chæronea. Under a mere argumentative address, or one dictated exclusively by the moral organs, they would have remained inactive; when

the object of the orator is to move and melt, he succeeds only by adopting the language and natural expression of the softer organs which he desires to affect. If he wishes to command tears, he sheds them. So true is the maxim, "*Si vis me flere, dolendum est primum tibi ipsi.*"

Does one man wish to conciliate the friendship of another? he mildly accosts him in the language of Adhesiveness, and thus excites a kindred organ. And when the lover strives to propitiate his mistress and gain her favours, he approaches and addresses her in the soft language and winning manner of the associated organs of Amativeness and Adhesiveness. This is the philosophy of what the poets denominate the sympathy of souls; the condition of an organ naturally and forcibly expressed, by looks, words, or actions, or by all of them, in one person, producing a similar condition of the same organ in another.

In further illustration of our principle, let us suppose a lover to address his mistress in the language and manner of Combateness, or an individual, intent on gaining the confidence of another, to approach him with a naked dagger, and the menace of Destructiveness. Would either succeed in his meditated object? We know he would not. On the contrary, the former would render himself an object of resentment and dislike, and the latter would become the subject of a reciprocated assault, and perhaps of a mortal injury. In phrenological terms, each would be met and answered by the organ corresponding to that whose language and manner he had mistakenly assumed.

Nor does this rule apply less forcibly to the moral organs, than to those of the other compartments of the brain. The very aspect of an educated individual with a large development of morality and reflection, his forehead elevated and broad, and the top of his head lofty and well arched, accompanied by the impressive and commanding air and manner that never fail to attend them, exerts over beholders a moral influence. Vice and impiety shrink from his approach, and no profane or unbecoming language is heard, nor vulgar indecencies practised, in his presence. Is he in the pulpit? It is under his influence, in particular, that "those who came to scoff, remain to pray." Wherever he is, even wild riot and bacchanalian uproar are settled and silenced, by the mild but imposing authority of his appearance. These are the attributes which rendered so indescribably attractive and overawing the aspect, air, and manner of Washington.

This effect of piety and morality, manifested in the exterior and deportment of an individual, is no less correctly than beautifully depicted by Virgil, in his illustration of the authority of Neptune, in quelling the fury of the ministers of Æolus, who

had disturbed his empire by a violent tempest. The passage, which is perfectly phrenological, is as follows :—

“ Ac veluti magno in populo cum sæpe coorta est
Seditio, sævitque animis ignobile vulgus ;
Jamque fœces et saxa volant ; furor arma ministrat ;
Tum pietate gravem ac meritis si forte virum quem
Conspexere, silent, arrectisque auribus adstant ;
Ille regit dictis animos, et pectora mulcet.”

“ As when in tumults rise the ignoble crowd,
Mad are their motions, and their tongues are loud ;
And stones and brands in rattling volleys fly,
And all the rustic arms that fury can supply ;
If then some *grave* and *pious* man appear,
They hush their noise and lend a listening ear ;
He soothes with sober words their angry mood,
And quenches their innate desire of blood.”

DRYDEN.

Whether we have regard to its poetical beauties, its graphical delineation, or its philosophical truth, there is scarcely to be found, in any production, whether ancient or modern, a picture superior in merit to this.

Let the instructors in penitentiaries, then, be fully developed in the moral and reflecting organs of the brain. Their organs of Benevolence, Veneration, Conscientiousness, and Hope, will so express themselves by appearance, manner, and words, as to awaken, in the convicts, the requisite action in the same organs. By their very language and general expression, independently of the sentiments inculcated, Benevolence soothes and conciliates, Conscientiousness solemnizes, Hope cheers with inviting prospects, in case of reformation, Wonder gives sanctity and force to inculcations of a belief in the existence of superior beings, while Veneration elevates and directs the soul towards its God*. In the expression and eloquence of the latter organ, in particular, when highly excited, there is a sublimity of fervour and force, which melts down and subdues even obduracy itself. Nothing canting, boisterous, menacing, or loud ; but a depth and solemn majesty of undertone, united to a glowing upward look, and an adoring attitude which nothing but the consummation of far-gone depravity can resist. The speaker does not merely recite ; he, at once, looks and acts the character he personates ; and we all know how important that is to deep effect, as well in the pulpit as on the stage.

How different is this, both in appearance and result, from that miserable substitute for religious and moral teaching ; that revolting caricature of piety, whining, coarse, obstreperous, and

* A large development of the organ of Wonder or Marvellousness heightens not a little the tone of Veneration, and gives it more decidedly a heavenward direction.

denouncing, which so often assails us in places of worship; and which has its source as exclusively in the animal organs, as the uproar of the bacchanalian, the shout of battle, or the howling of wolves? This indecent storminess of instruction affects alone the animal compartment of the brain, because, as just stated, it is itself grossly animal; and we venture to assert, that no teacher or minister ever practised it, who was himself largely developed in his moral and reflecting compartments: we mean, in whom those compartments fairly predominated, and gave character to the individual. On the truth of this we would be willing to peril the fate of Phrenology. It is a cast of pulpit-pugilists alone, with heads of the true ruffian mould, or nearly approaching it, that deal in nothing but discourses of terror; who, in sermonizing, or otherwise teaching, exercise their Combative and Destructive faculties to drive their flocks into the pale of *their* religion, precisely as they would employ a whip or a goad to drive sheep into a fold, or black cattle into their stalls. Terror is their chief, if not their only, instrument of reform; and a worse can scarcely be imagined. Their appeal is to Cautiousness, the organ of the craven passion of fear, whose influence never infused morality or religion into any one, and never can. Their plea of conversion and worship is not gratitude for existence and all its enjoyments, nor yet the love of moral purity and holiness, but the dread of punishment. They would frighten sinners into heaven, as a mere refuge from a place of torment.

From teaching like this, which is the growth of the more degraded propensities of man, the convicts of a prison should be carefully protected. Whatever seemingly useful effect it may produce on them, is, to say the least of it, transitory and deceptive. Nor is this all. It unfits the mind for rational improvement, and true reformation. No man, then, whose head inclines strongly to the ruffian form, should ever be employed as an instructor of convicts. For his labours to prove successful would seem impossible.

We cannot forbear expressing our sincere regret, that any individual, of such development, should ever assume the office of a public teacher of morality and religion. The pulpit is not his proper sphere. Such is the incongruity of his aspect and demeanour with that sacred spot, that, when he is in it, the appearance presented is scarcely short of caricature. He resembles the mock hero of farce, whose office is to "split the ears of the groundlings," and make the "million laugh." He does not "look his character," and cannot, therefore, act in it with impressive and permanent effect. He is a baboon in regimentals, or Bruin disfigured by a band and surplice. In fact, his teaching, like his looks, has "no relish of salvation in it." Hence his mi-

nistry is fruitless, and perhaps we might add, profane and injurious.

To show that our views, on this subject, are not singular, but comport with long standing and high authority, we refer to the heads of the Messiah, his beloved disciple, and Judas Iscariot, as delineated by Raphael, Michael Angelo, and others. In the two former, but more especially in the first of them, we find, united to large reflecting organs, the most finished specimens of moral development that has ever been witnessed; while, in the head of him who betrayed his Master, there is nothing but the development of the animal and the ruffian. The wonder is, that a being, with such a brain, should ever have been trusted, or admitted, for a moment, into fellowship with the pious.

Will it be objected, that these are fancy-heads, and not real likenesses of the persons designated? We answer, it matters not. Were the forms of the head proved to be fictitious, the phrenological argument derived from them would lose none of its force. The developments of the Messiah and the disciple whom he loved would still be expressive of morality and piety, and that of Judas of incurable depravity.

Fancy-painting, like statuary, poetry, and all moral fiction, must be true to life. If otherwise, it is worthless, and has no reputation. Supposing the painters, then, to have cast the moulds of the heads in their own imaginations, those moulds were but copies of nature. Had they not learnt, in the school of observation, that a lofty and expanded forehead, and an elevated and finely arched head, are indicative of reflection, morality, and piety, and the reverse of falsehood, treachery, and vice, they would not have represented the former attributes of figure as characteristic of beings consummate in excellence, and the latter of one matchless in guilt. Had those painters bestowed on the head of the Messiah the same form which they have given to that of Judas, high as their reputation was, a blunder so gross and unnatural would have ruined it. In the fanatical age in which they lived, the act would have been probably construed into impiety, and might have brought them to the stake. We mean no irreverence in adding, because we feel none, but the reverse, that had the Messiah presented such developments as those conferred on the apostolic traitor, his sermon on the Mount, as well as his other teachings, would have been less impressive than they were. It would not have been so likely to have been declared of him, that he "spake as never man spake." There is no doubt, that that criticism related to his manner, no less than his matter; and that it was alike true of both. There was in the discourse as much of the eloquence of piety and morality, as of the spirit and precepts.

That the experiment of moral instruction may be, in every instance, fair and satisfactory, convicts should be sentenced to a period of imprisonment and discipline proportioned, not alone to the enormity of any single crime, but to their developments, and age both in years and vice, and to the greater or less depravity of their habits. The sentence should be accommodated, as far as possible, to the time requisite for the criminal's reformation.

Is he young both in years and felony, and are his developments promising? his term of discipline may be the shorter, although the crime he has committed be of a serious character. But if more advanced in life, of worse developments, and more practised in guilt, his time of imprisonment should be longer, even under an offence of less magnitude. Nor ought distinctions to terminate here. Were two youths or adults convicted of crimes precisely alike, or even as accomplices in the same crime, one of better, the other of much worse developments, the latter should be sentenced to the longest discipline.

It ought never, however, to be forgotten, that very short terms of training, even in the cases of the youngest culprits, and for slight offences, are rarely productive of permanent good. A boy must have habits of vice, or at least such as lean very strongly toward it, of some continuance, before, by the commission of actual crime, he renders himself amenable to penal law. Effectually and permanently, therefore, to change such habits is the work of time.

As relates to the offences of youth, we apprehend that the law is defective. For a petty crime the discipline is so short, that it amounts to neither reformation nor punishment. It rather encourages the culprit to persevere in felony, than deters him from it*. Thus does he become ultimately habituated to crime. Hence it has been found, by experience, in some of the houses of correction in Scotland and elsewhere, that boys imprisoned a few weeks only, for lighter crimes, have become more frequently confirmed malefactors, and suffered death or transportation, than those who, on account of deeper guilt, have been sentenced to protracted terms of reform. Of this the cause is sufficiently palpable. In the latter cases there was time allowed for thorough reformation; while, in the former, the period of confinement was too brief. The rule of reason and conscience certainly is, never to let the culprit loose on society, until he has manifested the most satisfactory evidences of reform. This rule

* Hence the importance of establishing, for the reformation of juvenile offenders, houses of correction, on fair principles, and under competent government. The result of such establishments, if judiciously conducted, cannot fail to be incalculably beneficial. It will prove one of the most efficient preventives of crime that has ever been devised. The reason is, that it will be in perfect harmony with the principles of human nature.

should be observed in relation to young criminals as well as old, and whether the offence is petty or otherwise.

If our codes of penal law do not give to those who execute them a power to this effect, they ought to be amended. The effort to reform should be judiciously accommodated, both in manner and the period of its continuance, to the character of the convict. Any thing short of this is legislative empiricism. To attempt to reform all criminals by the same kind and continuance of process, is as arrant quackery, as the attempt to cure all diseases by the same remedy.

There are differences as numerous and striking in moral as in physical constitutions and temperament. Perhaps they are much more numerous. By those, then, who would operate on them skilfully and successfully, they must be alike studied and understood, that the means employed may be accommodated to their peculiarities. If this be not done, no useful result can ever be attained in the treatment of either physical or moral derangements. It need scarcely be added, that a system of discipline embracing this principle, would be subject to perpetual maladministration and abuse, unless conducted with real ability and undeviating faithfulness and attention. It should, therefore, be entrusted only to such men as possess wisdom and philanthropy, energy, perseverance, a degree of vigilance and penetration that no secrecy can escape, and a resolution and firmness that no difficulties can subdue. Nor are these the only high qualities which the governors and teachers in penitentiaries should possess. They should be men endued with the spirit, and marked with the air of authority and command, fearless of danger, undismayed by rebellion, and personally bold and active in suppressing it. Under such directors alone can any system for the reformation of criminals prove successful; for unless suitably administered, a mere form of government, however excellent, is a nullity.

We are told that a recommendation is abroad to shorten the periods of penitentiary discipline, with a view to reduce the number of convicts confined at the same time.

This is a mistaken policy. Its adoption, should it take effect, will prove it so. Instead of diminishing the number of convicts confined at once, it will eventually increase it. The only effectual mode to lessen their number is to reform them, or put them to death. To shorten the terms of their discipline will do neither. But it will certainly lessen the probability of their reformation.

We repeat, that the period of training should be proportioned to the difficulty of reform. Its requisite duration, therefore, can be determined only by experiment, under the management of suitable directors. As rationally might an attempt be made

to determine, by statute, the term for healing a physical as a moral malady. As heretofore intimated, reason would seem to dictate, that there be entrusted to a competent board, a discretionary power to prolong or shorten the period of training, according to the progress of the convict in reformation.

It is not our purpose to treat of the details of a system of penitentiary discipline. A minute consideration of the subject would involve an inadmissible protraction of this article. We deem it necessary, however, to offer, in relation to it, a few further remarks.

Convicts, although deeply depraved, are notwithstanding men, and should be dealt with on the principles of human nature. Unless for the soundest of reasons, and from motives the most imperative, nothing should be either done or said to them, to degrade them further in their own estimation, or in the opinion of others. Our feelings as men, united to our knowledge of the human character, testify to the correctness of this sentiment, and teach us the reason of it. A consciousness of degradation is an incubus on the spirit, repressing all elevation of thought and generosity of desire, and thus extinguishing in the culprit even a wish to reform. Repeating to him perpetually, in its petrifying accents, that the effort is useless, it renders him reckless, and teaches him despair. It is for this reason, added to the resentment and hatred it engenders, that, where reform is the object, corporeal punishment is the most hopeless discipline.

To secure the confidence, and conciliate the attachment of the offenders, should be a leading object with the teachers and governors. But this they can never effect by threatening, vituperative or contemptuous words, or the employment of the lash. To express ourselves, again, in phrenological terms, if they wish to excite in the prisoners the organ of Adhesiveness, and influence them by it, they must address them in its mild language, and manifest toward them the deportment it produces. By this course they can scarcely fail to get such a hold of their affections, and gain such an ascendancy over them, as may be rendered peculiarly operative in their amendment. The fallen convict, who cannot be raised and moulded into something better, by the benevolent and judicious efforts of a teacher or governor, to whom he is attached, and whom he perceives to be earnestly labouring for his good; is degraded below not only the hope, but the deserving of reform. He is a moral leper beyond even the possibility of cure. His soul is indissolubly wedded to vice, and his confinement should be for life.

On convicts, as on other men, the requisite knowledge, together with moral and religious instruction, should be inculcated by books, conversation, admonition, exhortation, and example.

This training, made to alternate with suitable labour, should be at first private. But those in whom satisfactory evidences of amendment have appeared, may, as a reward for good conduct, and a means of further reformation, be afterwards assembled occasionally in a suitable apartment provided for the purpose, and there receive instruction together.

In this way, if their amendment be genuine, their examples will be mutually and highly beneficial. This living and humane association, contrasted with dead and lonely walls, will once more awaken and cherish human feelings, recal something of the long forgotten pleasures of existence, and confirm in the penitents the resolutions which they may have already formed to render themselves worthy to live in communion and harmony with their race.

If it is essential to the successful inculcation of moral and religious instruction, that it be rendered acceptable to those who receive it, the same is true of habits of industry. Such habits, however essential as compounds of reform, can never be rendered permanent, by means that are justly offensive to the convicts. And every measure is justly offensive, that is either unnatural, or unnecessarily severe.

The youthful adult, and even the man in years, look back, with shuddering and abhorrence, on wanton severities which had been practised on their childhood, and execrate the names of those who perpetrated them. Nor will the criminal fail to remember, with similar emotions, the cruelties inflicted on him within the walls of a prison. And with the cruelties themselves he will associate the ends they were intended to produce, and regard them as objects of well founded hatred. Thus will his aversion from industry be confirmed. Such is human nature, and such the motives which influence, and the laws which govern, it.

The reason why burdensome and offensive tasks, enforced by severities and other kinds of ill treatment, never contribute either to the reformation of criminals, or the improvement of any one, is obvious. Harsh and galling discipline, of every description, is essentially the product of the animal organs. It is inflicted particularly by Combativeness and Destructiveness. And those who enforce it seldom fail to accompany it with the severe and offensive expression and manner of these organs. Indeed in no other way can they accomplish their object. But, as heretofore mentioned, it is a principle of our nature, that whatever organs we openly exercise in our deportment toward others, excite into similar action the corresponding organs in them.

In convicts, then, who are compelled to labour in employments that are disagreeable to them, to perform tasks that are

excessive and burdensome, or who are subjected, by their keepers, to any other indignities or wanton severities, the animal compartment of their brain, especially the organs of Combativeness and Destructiveness, are kept in a state of habitual excitement. The perpetual resentment of such criminals, and their deep desire of vengeance on their task-masters and tormentors, engross their thoughts, absorb the better feelings of their nature, and paralyze or cancel even the wish to reform. But we need scarcely add, that from such a state of excitement no improvement either in morals or industry can result. On the contrary, the effect in relation to both must be unfavourable.

On the subject of the diet of convicts, as an engine of reform, we have been hitherto silent. Yet we do not deem it unimportant. Feeding is a process exclusively animal, and contributes, in no degree, either to purify or strengthen our moral feelings in the abstract. But there exists not a doubt, that the quantity as well as the quality of food has a palpable influence on the animal propensities. Simple and moderate fare weakens, while a full and stimulating diet invigorates them. An attempt to prove this would be superfluous. It is already a maxim in morals, as well as in physiology. A conviction of its truth is the result no less of observation, than of personal experience. Our animal temperament, then, is strengthened, and our moral comparatively weakened, by luxurious living. From this, as respects convicts, the inference is plain. Let their fare be as simple as possible, consisting chiefly of vegetables, and barely sufficient in quantity to preserve health, and the amount of strength requisite for labour. Any thing beyond this will prove injurious, by retarding reform.

A temporary but severe reduction of aliment, for any breach of prison-rules, is one of the best modes of correction. Instead of exciting the angry and vindictive passions, like the infliction of stripes, it subdues them. It produces positive, not counterfeit submission. This may be readily proved in the case of our domestic animals. A vicious and refractory horse tolerates the harness and submits to the rein, much more readily under a spare, than under a full and pampering diet. On the same ground will a disorderly convict yield obedience. His animal propensities will be tamed and regulated, by withholding that which contributes to inflame them.

Such are the sentiments, which, in the character of phrenologists, we have ventured to express on penitentiary discipline. We confidently trust that an enlightened and liberal public will not reject them as visionary and useless, merely on account of the science with which they are connected. All we ask, in their behalf, is a severe but candid examination. Let that be

the test of their value, and the arbiter of their fate. If we are not mistaken, they are in fair accordance with the intellectual constitution of man, and will be found to be the elements of a better school of discipline in morality and industrious habits, than has been heretofore established in the penitentiaries of our country. As the elucidation and defence of general principles has been our chief object in the composition of this article, it is not, we repeat, our purpose to enter into the details of either the organization or administration of such an institution. That business will be more fitly referred to the wisdom and experience of those who are practically versed in it. In the mean time, a few further remarks in illustration and proof of the truths of Phrenology, will not, we trust, be deemed inadmissible.

We assert that, without perhaps being himself conscious of it, every man of sound observation is instinctively a phrenologist. He judges of the intellects and characters of individuals, at first sight, by the forms and dimensions of their heads. That this is true, as respects striking heads, admits of demonstration. And if it is true of any, it is, to a certain extent, true of all.

The idiot head, the ruffian head, and the head of elevated morality and reflection can be mistaken by no one of common discernment. Even children notice them, and are sensible of their indications. Nor is there the least difficulty in distinguishing and interpreting heads of midway intermediate grades. Even of those that more nearly approach each other, in size and figure, the difference, although less obvious, is still perceptible; to the acute and practised observer very palpably so. We venture to assert, that these principles influence man, in many of his most important transactions.

No enlightened and virtuous ruler, whether he be emperor, king, prince, or president, ever selects, as a privy counsellor, a chief justice, a minister of state, a foreign ambassador, or the chief of any important department, a man who wears a ruffian head. In proof of this, reference is fearlessly made to all high and confidential officers, of this description, whose developments are known to us. It will be found, on examination, that the tops of their heads were lofty and well arched, and their foreheads elevated and broad. It is known that Washington was one of the most accurate judges of men. He was rarely if ever mistaken in his opinion of characters, or unfortunate in his appointments to office. And he selected, for his cabinet, and other stations, where distinguished wisdom and virtue were required, some of the best moulded heads of the nation. The head of Hamilton was a finished model of development, in the moral and reflecting compartments of the brain. So was that of the Duke of Sully, the favourite counsellor of Henry IV., and per-

haps the most virtuous and enlightened minister that ever directed the affairs of France. But to specify, on this subject, would be an endless and perhaps an envious task. We repeat, therefore, that, as far as facts are known, great and good rulers never fail to place in stations of high trust, men whose moral and reflecting compartments are full.

On the contrary, when a crafty and sanguinary tyrant resolves on the assassination of those who are obnoxious to him, he places the dagger in the hand of one whose head is of the genuine ruffian form. Of this cast are the heads of those who minister to the vengeance of such dealers in blood as Nero, Domitian, and Richard of England.

All public executioners by profession have ruffian heads. The man of high moral and reflecting developments never accepts such a revolting office. He turns instinctively from the sight of agony and blood, which are attractive only to the organ of Destructiveness.

The ruffian form of head belongs also to habitually mutinous soldiers and sailors, and to all those who lead conspiracies concerted for purposes of rapine and murder.

An enlightened traveller loaded with wealth, about to commence a long journey through an uninhabited country infested by robbers, wishes to engage a few companions, with whom he may be familiar, and in whom he can confide. A number of strangers present themselves, alike in size, and muscular strength and activity; but some of them possess large ruffian, and the others fine moral and reflecting, developments. Instinctively, and without a pause, the traveller selects the latter as his associates. The former, no correct judge of human nature will ever choose as counsellors in difficulties, or as confidential friends.

There never yet existed, and, under the present constitution of things, there never can exist, a minister of the gospel morally and piously eloquent and impressive in the highest degree, without a fine moral development. It is such development alone that can give him that rich and fervid morality and devotion of conception and feeling, without which the eloquence of the pulpit is cold and barren.

A preacher with a ruffian development may have what the world calls eloquence; but it is spurious and unproductive. He may rant and rave, alarm, touch, and even draw tears; but all is animal, and comparatively gross. He can never awaken, and excite, to the highest pitch, sentiments of pure morality and vital piety. He can never produce that rich, engrossing, and sublime devotion, which imparts to the subjects of it a lively foretaste of the enjoyments of a higher and holier state of existence. Nor is any one susceptible of feelings so exalted and unearthly, unless his moral development is good. As

well might it be expected of him to see and hear, with inordinate keenness, without any excellency of eye and ear.

The eloquence of every public speaker, then, must correspond with his developments. So true is this, that a disciplined phrenologist, who is at the same time a man of literary taste, can tell, and has told the cerebral character of an orator whom he had never seen, and whose head he had never heard described, from reading his discourses. The developments of the celebrated Dr Chalmers were thus indicated by a phrenologist to whom he was an entire stranger.

The eloquence of the aborigines of our country, on which such extravagant eulogies have been bestowed, is the growth almost exclusively of the animal and knowing compartments of the brain; the former of which those sons of the forest have in very large, and the latter in sufficiently full, development. To the moral and reflecting compartments, in which the Indians are strikingly deficient, it has but little affinity. To this even the boasted speech of Logan is no exception.

Of all savage eloquence the same is true. Animal and fierce in its nature, it may move very deeply the animal feelings; but it never awakens moral sentiment, nor exercises intensely the organs of reflection.

Phrenology is as applicable to the inferior animals, as it is to man, and derives from thence abundant evidence confirmatory of its truth. Wherever we direct our view, we find ruffianism or nobleness.

In the family of the dog kind, the cur and the lurcher belong to the former cast, and the mastiff and the Newfoundland dog, to the latter. Of the Cabaline race, the scrub is the ruffian, and the Arab, the hunter, and the war-horse, animals of generous and noble qualities. And the difference of cerebral development and mental attributes that marks the specified varieties in these two races of quadrupeds, resembles very closely that which exists between the human ruffian and the man of native morality.

Let it not be imagined that our condemnation of severities in penitentiary discipline arises from motives of sickly sensibility, either real or affected. We neither possess nor profess any mawkish sympathy in the sufferings of convicts. We have spoken, on the subject, not from excited feeling, but deliberate judgment.

Convicts of every description, but more especially those whose guilt is deep, deserve severe treatment, could the chief end of their punishment be promoted by it. But, for the reasons already stated, we are persuaded it cannot.

Our sympathies, therefore, are for the innocent, not the guilty; for the community, not the condemned. To protect the latter from aggression and wrong, we would protect the former from all treatment, which, however justly inflicted, might prevent

their reformation: Could severity reform, and had we the power to direct it, the measure of it dispensed should be sufficiently full. We would avoid cruelty, but execute justice with an unsparing hand. Even the life of the culprit should expiate his guilt, could the public weal be promoted by the sacrifice. This remark opens to us the subject of punishment by death, to which we have heretofore but casually adverted. A few further thoughts on it shall close this paper, which has been already protracted far beyond its intended limits.

We well know that in various parts of the United States, but perhaps more especially in the state of Pennsylvania, the tide of public feeling is setting very strongly against capital punishments. Its legitimacy, or rather the authority and right of the political body to inflict it, is questioned by many, and denied by not a few. As far as we have looked into the controversy, it appears to us that the opposers of the lawfulness of punishment by death, rely, for evidence to support their opinions, chiefly, if not entirely, on their interpretation of the Old and New Testaments; at least on some tenet or sentiment of religion. If they have attempted seriously to sustain themselves, on any other grounds, their writings to that effect have escaped our notice. Their objection, therefore, seems to be founded exclusively in their religious creed.

It is not our intention to analyze very critically this objection, nor to attempt, with any earnestness, either to refute or confirm it. We cannot perceive in it any marked pertinency to the point at issue. We are greatly mistaken if it is not much more the result of individual feeling, than of sound judgment or enlightened wisdom. On this, as on other subjects, men think according to personal temperament, and early education.

The question as to the right of government to inflict capital punishment, is one of policy and natural law, not of religion. Aware of this, and, as we apprehend, in recognition of it, the Author of our religion has left behind him, on the subject, no precept, either positive or fairly implied. As far, therefore, as his teachings are concerned, the matter rests where it did before, with the wisdom of lawgivers. The Christian dispensation, then, not forbidding it, it cannot be deemed an irreligious practice. Nor from the mild and benevolent tenets of Christianity can any inference unfavourable to it be drawn. That benevolence is catholic in its character. Contemplating the greatest practicable amount of good, it embraces the many rather than the few; the community at large, rather than individuals. Much less can it be converted, by construction and mistaken tenderness, into a shield for the vicious and worthless, in their annoyance of the virtuous and the valuable. Such a construction would change both its nature and effects, and transform it into cruelty.

Shall we be told, that it is wrong to cut off a sinner in the

midst of his career of vice, because it deprives him of the chance of repentance, and throws a barrier in the way of his salvation? We answer, that this is a point to be considered by the culprit himself, rather than by society, which is suffering from his vices. His guilt must not be made his sanctuary. His life must not be spared, merely because it is a public evil. It must not be held sacred and inviolable, because it is not only itself sinful, but is leading others into sin. *Quod probat nimis, probat nihil.* If this argument proves any thing, it proves certainly too much. Its plain and undeniable import is, that the deeper the guilt, the more carefully should the life of the guilty be preserved, lest, by his death, his soul might be lost. We might even retort on our antagonists and say, that the longer the guilty perseveres in his guilt, the more signal will be his future punishment. Shorten his life, therefore, to mitigate his torments. To say the least, perseverance and inveteracy in sin, afford a bad prospect of repentance and salvation.

If we refer to the theocracy of the Jews, the Deity himself being the immediate lawgiver, the question assumes a very different aspect. Under that dispensation, capital punishment for several crimes was not only permitted, but expressly enjoined by Divine authority. And whatever might have been their source, the Jewish laws, for the government of the community, were as much a system of civil policy as the laws of our own, or of any other country. Supposing them of divine origin, they were necessarily correct in all points, accommodated to the nature and relations of man, and conferred on the body politic no right over the individual, which was not both just and merciful in itself, and salutary in its effects. To contend in opposition to this, is to pay but little respect to the authority of Heaven.

But the system of Christianity has not altered the nature of things. Justice and right are immutable; the same now that they were in the beginning. What was just and right at the foot of Mount Sinai, is equally so in the United States. If it was correct, in the Jewish community to take away the life of a high malefactor, it is equally correct in our own community. Christianity has abolished only things that were local and temporary, not universal and permanent; mere ceremonials, not essentials. It has not altered either the nature of man, or the principles that bind civil society together, and by the influence of which alone it can maintain its existence. It has abrogated nothing of the pre-established order and fitness of things. We repeat, that what was right under the Jewish dispensation is right under the Christian, unless rendered otherwise by a positive prohibition.

We contend, then, that, provided wisdom and sound policy sanction the act, in other words, provided the measure be

deemed, by those appointed to decide on it, best calculated to protect society, and promote the public good, government has a right to inflict on high offenders the punishment of death. This right is not only consistent with the laws of nature ; it is one of them.

A civil community, considered as a body, is analogous to an individual, and has the same privileges. But to the individual the privilege of self-defence, adapted to circumstances, will not be denied. Feeling and reason alike sanction it, and neither the letter nor spirit of Christianity forbids it. To preserve his own life, or that of his friend, a man may take away the life of a felonious enemy. So may he that of a robber, who is entering his house at night, with a view to pillage it by force, and then set fire to it. A female has a right to defend her honour, by the death of him who is about to violate it. To these positions nothing, we think, but sophistry can be opposed. Provided any means, more suitable and advantageous than the death of the culprit, can be devised to prevent the meditated mischief, they ought certainly to be adopted. But we are vindicating right, not contending for expedience or policy.

Between the civil community and him who would subvert its highest interests, if not destroy its very existence, the same rights and relations subsist. Society must protect itself by such means as comport best with its interests and necessities. Provided it can do this in no other way, it is fully justified in taking away the life of the offender. To deny this is to deprive the community of the shield of natural law. It is to lay bare to the dagger of the assassin the bosom of the innocent, to leave female honour often unprotected, and to suffer the robber to riot on the fruits of ruined industry. It is, in fact, to permit guilt to triumph, by allowing the unsuspecting and the virtuous to become the dupes and victims of the designing and the wicked.

As it seems undeniable, then, that society possesses the right to exact of criminals the penalty of death, the matter resolves itself into a question of policy, and it belongs to lawgivers to decide between it and other forms of punishment. We shall only add the palpable truth, that, in every state and condition of society, the same kind of penal policy cannot be equally wise and salutary. Without capital punishment, it is doubtful, perhaps, whether certain communities could maintain their existence, while in others, a different form of correction may be generally preferable. In this, as in all other human affairs, adaptation to circumstances is the dictate of wisdom, and can be attained only as the fruit of experience *.

* We admit the *right*, but limit the *expediency*. In a very barbarous age, it may be necessary ; but in proportion as society becomes humanized, it may be dispensed with.—EDITOR.

ARTICLE III.

OBSERVATIONS ON THE PROGRESS AND PROSPECTS OF
THE CAUSE OF UNIVERSAL PEACE.

It is refreshing to the moralist, who is practically convinced that man is happy in the direct ratio of the predominance of his moral faculties over his animal propensities,—of the law in his mind over the law in his members,—to see our nature here and there vindicating its own dignity, and rising up erect above a grovelling scene below, with those characters on its brow which ally it directly with Divinity. Several noble purposes of Justice and Mercy are in progress in this country, and are every day enlisting a wider circle of adherents. Such are the mitigation and ultimate cessation of negro slavery,—the abolition of capital and cruel punishments,—the rescue of the soul and body of the infant labourer from the fangs of manufacturing avarice,—the discouragement of that self-destruction, moral and physical, excess in the use of ardent spirits;—and last and greatest, the disuse of war, and maintenance of peace throughout the world. There is no more cogent proof of the prevalence of the inferior feelings in the current impressions of society, and of the ignorance which covers from its eyes the true constitution of creation, than the fact that all these labours of love are very generally treated as pure chimeras,—as the dreams of well-meaning but weak men, enthusiasts utterly ignorant of the world, and the rational and practicable means by which the world is moved. Yet it is true that, as to beneficial results, the contemned are wiser than the contemnors. Guided, or, it may be impelled, by their feeling of good-will to men, they are wielding means for moving the world, compared to which the self-seeking of the propensities shrinks into insignificance. Nay, the latter do not stop at the negative point of failure to promote human weal, but positively work human woe, in direct proportion to the energy of their application.

But although the propensities predominate in society, the moral faculties and intellect exist, and can be operated upon. The process is insensible, and it is slow. The portion of morality, moderate as it is, which leavens the mass of animalism in the human race of 1832, is all that six thousand years have produced; and of that, ninety hundred parts are the shoot of the two last centuries. But the progression is thereby proved to take place in an accelerating ratio, and another century will in all probability quadruple the present total sum of working

morality in the world. It is interesting to observe this silent and steady, though slow infusion of good, of which, to use a chemical term, mankind have a large, and yet very partially supplied capacity. The success, for example, of Temperance Societies in America, where they originated, and in Britain, where they are rapidly extending, is accounted for by this gradual diffusion of sound sense and right feeling. The advocates of temperance have held up to the world a concentrated picture of human suffering, flowing from excess in ardent spirits, as it affects the bodily frame,—brutalizes or entirely wrecks the mind,—beggars the family,—squanders property and life*,—and multiplies crime. They have exhibited with that picture a plan for abating the nuisance, and moreover have pressed upon the public attention such unequivocal proofs of their success, that the smile of what Sir Walter Scott admirably names vulgar incredulity, not less common than vulgar credulity, is giving way on many a countenance to the more thoughtful expression of a sober approbation, and conviction not only that this wide-spreading root of moral and physical evil is removeable, but that the best means have been actually resorted to for its removal. Temperance is extending; multitudes not members of the already numerous societies are acting on their principles, and aiding yet farther to spread a new and better habit of thinking with regard to the important object of these associations. This is the best way to extirpate a grand social evil. The turn of the moral tide is irresistible. It gathers depth and force as it rolls on, and ultimately carries along with it all that influences opinion and establishes law. The abolition of the Slave-trade gradually progressed in this way, and was consummated. The cause of the ultimate extinction of slavery itself is every day gaining new adherents, as is that of the disuse of capital and cruel punishments; while merrymaking to the juvenile labourer, too long refused by the manufacturer, and even yet opposed by him with ruthless tenacity, is actually in course of being made law by the legislature.

We propose to devote the remainder of this paper to a short inquiry into the reasonableness of the expectations of the friends of peace, that their labours shall, either in themselves or their successors, one, two, or any number of generations hence, be crowned with success.

Active association is the engine resorted to for the purpose of effecting the desired end. As the credit of the first temperance society belongs to America, so does the still higher honour of the first association for the promotion of peace. It is of the

* Witness the loss of the *Rothsay Castle Steam-Packet*.

very essence of the principles we applaud, to rejoice to give the credit of priority in practical morality where it is due. The national vanity which disputes, or the unfairness which denies when justly due, the credit of inventions, discoveries or improvements, come not of the moral sentiments, and will not be found in company with a cordial promotion of their reign.

Homilies, for the hour, many a one, have been written against war. Erasmus denounced its horrors to Francis the First of France; Voltaire, and Swift, and Franklin satirized its folly; Bishop Porteous preached, that "one murder makes a villain, millions a hero;" but no one has attacked the warlike education which we still give our youth, or the laurels wherewith we wreath the brows of our warriors. The first systematic *operations* against war were unquestionably commenced by the Peace Societies of America.

The first association of the kind in the world was formed at New-York in August 1815. In December following the Massachusetts and Ohio Peace Societies were established. On 14th June 1816, a "Society for Promoting Permanent and Universal Peace" was formed in London. Thus four Peace Societies were formed within one year, in places remote from each other, without concert, and probably without knowledge of each other's existence. A society with the same objects, and yet more extensive, was formed in France in August 1821, under the name of "The Society of Christian Morals;" the object of which, as published in their prospectus, is to dispose mankind "to abjure all anger, hatred and dissension,—to love one another,—to treat each other as brethren,—and finally to seek and procure peace." Pennsylvania was not the first,—though that might have been expected,—to set the example, but followed in 1822, and there are now above fifty peace societies in the States of the Union. They have also spread to Nova Scotia and Canada. In Great Britain and Ireland, there are nearly twenty auxiliary societies; and scarcely a town of note where the parent society in London has not a correspondent, to diffuse its principles,—circulate its reports, tracts, and periodicals,—and contribute to its expenses. A quarterly journal, called the *Herald of Peace*, published in London, has reached its 40th number, and 8th volume; and in America a kindred periodical is published, called the *Harbinger of Peace*.

Several numbers of the *Herald* are now before us. With a qualification which goes to its efficiency, as it does of all the Peace Societies, to be afterwards noticed, it is an able and interesting periodical. It loses no opportunity of portraying the horrors of war; spares no writer or orator who even manifests indifference to the towering evil, still less who applauds and glories in the custom; and invariably follows up this course with

evidence of the folly, costliness, and fruitlessness of war, so cogent as to leave it a point of difficult solution whether the moral barbarism or the intellectual obscuration, evinced by the custom, is the most profound.

A paper like this is not the place for details of the horrors and irrationalities of war. Of these the publications of the peace societies are full. We are tempted, nevertheless, to give a specimen from the London Society's fifth tract (1830). The appalling facts are taken from Lebaume's Narrative of Napoleon's Campaign in Russia; which, in the amount and kind of human suffering, may have been equalled in the too extensive choice of wars, ancient and modern, but has never been exceeded. The army with which the French Emperor entered Russia, after deducting the Austrians, garrisons, and reserves, amounted to 400,000 infantry, 60,000 cavalry, and 1200 pieces of artillery. Subsequent to the slaughters of Smolensko, EIGHTY THOUSAND MEN PERISHED AT BORODINO, mangled by balls, shells, bayonets, sabres, horses' hoofs, and gun-carriage wheels. "In traversing," says the author, "the elevated plain on which we had fought, we were enabled to form an estimate of the immense loss that had been sustained by the Russians; a surface of about nine square miles in extent, was covered with the killed and wounded, with the wreck of arms, lances, helmets, and cuirasses, and with balls as numerous as hailstones after a violent storm. In many places the bursting of shells had overturned men and horses, and such was the havoc occasioned by repeated discharges, that mountains of dead were raised. But the most dreadful spectacle was the interior of the ravines, where the wounded had instinctively crawled to avoid the shot; here these unfortunate wretches, lying one upon another, destitute of assistance, and weltering in their blood, uttered the most horrid groans. Loudly invoking death, they besought us to put an end to their excruciating torments. *As our medical means of relief were insufficient,* our fruitless compassion could only lament the calamities inseparable from a war so atrocious."

TWELVE THOUSAND WOUNDED MEN WERE BURNED IN THE HOSPITALS OF MOSCOW!—Lebaume's graphic account of the horrors of the conflagration of that city should be got by heart, both by the enemies and lovers of war. After the insufferable heat of the flames, which alone drove the plunderers out of Moscow, the same criminals were yet to endure the contrast of the intense cold of the memorable retreat. They were to sink into the ditches smoothed up with snow, and be left by their hardened self-preserving comrades to perish; these in their turn disputed their meal of horse-flesh with the famished dogs that howled around them, or the flocks of ominous ravens that croaked over their heads. An awful retribution awaited many more

at the passage of the Volp, and, yet worse, of the Berezina, while the Cossacks murdered and stripped all that were left behind. "The last night had been dreadful. To form an idea of its rigours, it is necessary to conceive an army encamped on the snow, in the depth of a severe winter, pursued by an enemy, to whom it could oppose neither artillery nor cavalry. The soldiers, without shoes, and almost destitute of clothing, were enfeebled by hunger and fatigue. Seated on their knapsacks, they slept on their knees. From this benumbing posture they only rose to broil a few slices of horse-flesh, or to melt some pieces of ice. They were often without wood, and, to keep up a fire, demolished the houses in which the generals were lodged. When we awoke in the morning, villages that had been standing entire in the evening, formed the next day one vast conflagration. Whole teams, sinking under their fatigues, fell together, and obstructed the way. MORE THAN THIRTY THOUSAND HORSES PERISHED IN A FEW DAYS! All the defiles that were impassable for the carriages, were strewn with arms, helmets, cuirasses, broken trunks, portmanteaus, and clothes of every kind. At intervals we saw trees, at the feet of which the soldiers had attempted to light fires, but had expired in making these useless efforts to warm themselves. They were stretched by dozens round the green branches, which they had in vain endeavoured to kindle; and the number of dead bodies would have blocked up the road, if we had not employed men to throw them into the ruts and ditches. *These horrors, so far from exciting our sensibility, only hardened our hearts.* Having no longer the power of exercising our cruelty on our enemies, we turned it on each other. The best friends were estranged; whoever experienced the least sickness was certain of never seeing his country again, unless he had good horses and faithful servants. Preserving the plunder of Moscow was preferred by most to the pleasure of saving a comrade. We heard around us the groans of the dying, and the plaintive voice of those who were abandoned; but all were deaf to their cries, and if any one approached them when at the point of death, it was for the purpose of stripping them, and searching whether they had any remains of food.

"Liadoui being in Lithuania, we thought it would be respected as belonging to ancient Poland. The next morning we left it before daybreak; but, to our great astonishment, were, according to custom, lighted by the fire of the buildings which began to burn. This was the occasion of one of the most dreadful events that occurred in our retreat. My pen would shrink from its office, if the relation of so many misfortunes had any other object or moral, than that of holding up to detestation the fatal ambition that forced civilized people to make war like bar-

barians. Among the burning houses were three large barns filled with poor soldiers, chiefly wounded. They could not escape from two of these without passing through the one in front, which was on fire; the most active saved themselves by leaping out of the windows, but all those who were sick or crippled, not having strength to move, saw the flames advancing rapidly to devour them. Touched by their shrieks, some who were least hardened, endeavoured in vain to save them; we could only see them half buried under the burning rafters. Through whirlwinds of smoke, they entreated their comrades to shorten their sufferings by depriving them of life, and from motives of humanity we thought it our duty to comply with their wishes. As there were some who, notwithstanding, still survived, we heard them with feeble voices crying: "Fire on us! fire on us! at the head! at the head! do not miss!"

The passage of the Berézina is a description familiar to the reading public. The worst feature of it was the murderous selfishness of the struggle,—the treading down, and shrieking of the fallen,—the carnage of infantry by cavalry, and the crushing of both by the artillery and carriages, the whole aggravated by a furious attack by the pursuing Russians. "In the heat of the engagement many balls fell on the miserable crowd, that for three days had been pressing round the bridge, and even some shells burst in the midst of them. Terror and despair then took possession of every heart anxious for self-preservation; women and children, who had escaped so many disasters, seemed to have been preserved to experience a death still more deplorable. Leaving their carriages, they ran to embrace the knees of the first person they met, and implored him with tears, to take them to the other side. The sick and wounded, seated on the trunk of a tree, or supported on crutches, looked eagerly for some friend that could assist them; but their cries were lost in the air; every one thought only of his own safety." The feeble were plundered, stripped, and often murdered by their own comrades. The brain of multitudes gave way to the intense cold, and the most appalling madness prevailed. Many threw themselves into the fires, and perished in horrible contortions; the spectators "reduced to a state of brutality which left them no feeling but the instinct of self-preservation." When at last the wreck of the army reached Kowna, they got at once into plenty and comfort. Here excessive spirits-drinking killed great numbers.

The Russians suffered immensely as well as their enemies. Of 120,000 effective men, with which they commenced the pursuit, 35,000 arrived on the frontier of the Duchy of Warsaw, and 18,000 only crossed the Vistula. "On a moderate computa-

tion, FIVE HUNDRED THOUSAND LIVES WERE MISERABLY LOST IN ONE HUNDRED AND SEVENTY-THREE DAYS !”

There is no feature in war more repulsive than its demoralizing effects on its instruments. It not only familiarizes these with every species of injustice, violence, and crime, but obliterates in them every trace of humanity ; while the fiend which it implants instead, wreaks itself alike on friends and foes. The French retreat from Russia, surveyed by the philanthropist, appears the conflict of demons, in the midst of demons’ sufferings.

But not only are the immediate actors in war unhumanized, the whole of a belligerent people are reduced in the moral scale. Their whole intellect and energy are bent in an antisocial direction, they get an appetite for blood. Institutions and schemes of benevolence and social improvement languish or are abandoned. Jobbing and selfishness thrive in a lavish public expenditure ; — national pride, vanity, jealousy, and prejudice, gather strength ; enmity becomes a habit of feeling ; and the impiety passes as household words, that a people who are our nearest neighbours, and therefore ought to be our best friends, are our natural enemies.

The associated advocates of peace do not forget the enormous cost of war. The expenditure of the wars since the time of Queen Anne has been, to Great Britain alone, above two thousand millions,—a sum which would have made the whole empire a garden, and advanced the physical, moral, and intellectual condition of its population beyond all calculation.

The reflection comes unbidden, to what end are all these sacrifices ? And the Society’s tracts are not slow with their answer. Rational beings purchase *advantages* by voluntary privations ; what should not Britain have purchased by all the expenditure of blood and treasure, by all the suffering and all the mourning of her wars ? surely immense benefits ? incalculable national and individual returns ? No such thing ! Not a schoolboy is ignorant that Britain’s wars have, on an average, ended just where they began ; and that all the slaughter and expenditure have been a dead loss. The “ *status quo ante bellum*,” in other words, the war’s object not gained, is a standing form of diplomatic usage, from the almost invariable demand for it in her negotiations. It conveys a bitter satire upon her belligerent policy, and demonstrates that negotiation without the war would have been better than negotiation after it. It is demonstrable that Britain’s foreign relations would at this day have stood quite as well, at least, as they actually do, without the wars of the last and the present century. Much we doubt if any of those wars, however *necessary* they became in their progress, were *just* in their commencement ; and we take it, that in these

more enlightened times, not one of them would be undertaken again for the same causes. In a word, it is difficult to settle the question, whether the misery of war or its folly be the most conspicuous. So true is it as Shakspeare says, that

“The edge of war, like an ill-sheathed knife,
Doth cut its master.”

Voltaire, without, we suspect, feeling very deeply the misery, reduces the folly to the last stage of its native helplessness and indefensibility.

“A genealogist proves to a prince, that he descends in a right line from a count, whose parents made a family compact, three or four hundred years ago, with a house, the recollection of which even does not exist. This house had distant pretensions to a province, of which the last possessor died of apoplexy. The prince and his council see his right at once. This province, which is some hundred leagues distant from him, in vain protests that it knows him not; that it has no desire to be governed by him, that to give laws to his people, he must at least have their consent;—these discourses only reach as far as the ears of the prince, whose right is incontestible. He immediately assembles a great number of men, who have nothing to lose, dresses them in coarse blue cloth, borders their hats with broad white binding, makes them turn to the right and left, and marches them to glory.

“Other princes who hear of this equipment, take part in it, each according to his power, and cover a small extent of country with more mercenary murderers than Zinghis Khan, Tamerlane, and Bajazet employed in their train.

“Distant people hear that they are going to fight, and that they may gain five or six sous a-day, if they will be of the party; they divide themselves into two bands, like reapers, and offer their services to whoever will employ them.

“These multitudes fall upon one another, not only without having any interest in the affair, but without knowing the reason of it.

“We see at once five or six belligerent powers, sometimes three against three, sometimes two against four, and sometimes one against five, all equally detesting, uniting with, and attacking one another by turns; all agreed in a single point,—that of doing all the harm possible.

“The most wonderful part of this infernal enterprise is, that each chief of the murderers causes his colours to be blessed, and solemnly invokes God before he goes to exterminate his neighbours. If a chief has only the fortune to kill two or three thousand men, he does not thank God for it; but when he has exterminated about ten thousand by fire and sword, and, to complete the work, some town has been levelled with the ground,

they then sing a long song in four parts, composed in a language unknown to all who have fought, and, moreover, replete with barbarism. The same song serves for marriages and births as well as for murders; which is unpardonable, particularly in a nation the most famous for new songs."

Dean Swift, through the medium of Gulliver, satirizes war in the following caustic terms:—

"I could not forbear shaking my head," says Gulliver, "and smiling a little at the ignorance of the Houyhnhnm. And, being no stranger to the art of war, I gave him a description of the cannons, culverins, muskets, carabines, pistols, bullets, powder, swords, bayonets, battles, sieges, retreats, attacks, undermines, countermines, bombardments, sea-fights, ships sunk with a thousand men, twenty thousand killed on each side, dying groans, limbs flying in the air, smoke, noise, confusion, trampling to death under horses' feet, flight, pursuit, victory; fields strewn with carcasses, left for food to dogs and wolves and birds of prey; plundering, stripping, ravishing, burning, and destroying. And, to set forth the valour of my own dear countrymen, I assured him that I had seen them blow up a hundred enemies at once in a siege, and as many in a ship; and beheld the dead bodies drop down in pieces from the clouds, to the great diversion of the spectators."

Franklin, in a letter to Priestley, after some bitter regrets that man is so selfish and intractable, so much more easily provoked than reconciled, so prone to destroy his fellows, and so slow to do them good, thus concludes:—"In what light we are viewed by superior beings, may be gathered from a piece of late West India news, which probably has not yet reached you. A young angel of distinction being sent down to this world on some business, for the first time, had an old courtier-spirit assigned him as a guide. They arrived over the seas of Martinico, in the middle of the long day of obstinate fight between the fleets of Rodney and De Grasse. When, through the clouds of smoke, he saw the fire of the guns, the decks covered with mangled limbs, and bodies dead or dying, the ships sinking, burning or blown into the air, and the quantity of pain, misery and destruction the crews yet alive were thus with so much eagerness dealing round to one another; he turned angrily to his guide, and said, You blundering blockhead you are ignorant of your business; you undertook to conduct me to the earth, and you have brought me into hell! No, Sir, said the guide, I have made no mistake. This is really the Earth, and these are men; devils never treat one another in this cruel manner; they have more sense, and more of what men (vainly) call humanity."

Such is the *material* of what is called martial glory,—that thing which has long had, and still has, a charm about it sufficient to turn the heads of nine-tenths of the youth of every

people in Europe. Our childhood is dazzled with the gorgeous apparel, the casque, the plumes, the glittering arms of the soldier, the standards which wave over his head, the witchery of his horsemanship; and we associate his proud port and measured step with the clangour of martial music, the drum-peal and the trumpet's blare. In the vanity of youth, we think we see in the young soldier gracefulness and beauty set in the most advantageous externals, and the gaze of woman's eye engrossed by the spectacle. We read daily of ancient warriors, and have the ambition of the conqueror's greatness planted and watered in our young bosoms by our classical instructors. We have joined in the acclaim of victory, as the cannon shook our city with the news, and exulted in the immensely preponderating slaughter of the enemy as our streets blazed with festive fires. We have witnessed the victor's reward, from the shout of the crowd up to the vote of the parliament, and the lavish honours of the monarch's hand—the dukedom, the princely palace, and the broad domain. Bravery, activity, generosity, all that is spirited, and graceful, and elegant, seem to us to recommend the youthful warrior; and we find him called “the gallant general,” when, in his maturer years, he has arrived at speech-making and law-making in the legislature. What is the common-place routine, the dull insipidity of all other earthly pursuits, in the estimation of uneducated, or rather miseducated, youth, when compared with this! Scarcely a feather-weight in education has been thrown into the other scale. The horrors of war have never been offered to view. The child is applauded when he longs to change with the cavalry and sabre the enemy, and when he sighs that these victories will leave none of the French for him to kill; a regret we have all known expressed by what are called spirited boys, who to a man, must needs be soldiers, to the great affliction of their mothers, when the wish is actually realized. To be “*un bon sabbreur*” is of course the nursery aspiration of the other side of the Channel. The fine sabreur is left unmitigated by his spiritual guides; for the House of God itself resounds with *Te Deums* and thanksgivings, for victories and their slaughters. It is thus that the whole population are rendered belligerent, from the school-boy with his holiday, and the maiden with her ready smile and waving kerchief, to the bearded senator and reverend divine;—all rejoice in wars and their rumours, contemplate a long contest as a very natural state of society, and doubt, or rather do not doubt, whether an alternation of war and peace be not politically wholesome! The press has by no means begun to counteract this moral pestilence. Martial daring is a favourite theme with the romance writer, the biographer, the dramatist, and even the grave historian. Never is an author more sure of po-

pularity than when by his graphic powers he brings his readers into the midst of the camp, the siege, or the battle; never is the poet held more sublime than when he sings—

“ ’Tis morn; yet scarce the level sun
Could pierce the war-cloud rolling dun
Where furious Frank and fiery Hun
Shout in the sulph’rous canopy.”

Or when his strain proclaims that

—“ while each gun
From its adamantine lips
Spread a death-shade round the ships,
Like the hurricane-eclipse
Of the sun.”

Few poets make an attempt to qualify such glories with an allusion to their accompanying horrors:

“ And yet amid the joy and uproar,
Oh, think of those who sleep
Full many a fathom deep,
By thy wild and stormy steep,
Elsinore.”

Society proceeds under the habitual impression, that “the pride and pomp of glorious war” are the most highly rated luxuries of life, fully warranting the vast cost at which they are purchased. The Herald of Peace does not spare this egregious irrationality. In its thirty-second Number, it makes an example of Washington Irving, who, in his “Conquest of Grenada,” yields to the seduction of the popular feeling, and loves to tint yet higher the false splendours of warlike portraiture. He describes an incursion of the Spaniards into the Moorish territory, which, for barbarity, would have been disowned by the followers of Attila, with a complacency which will not fail to be duly appreciated by the American Peace Societies at least. —“Never,” says Fray Antonio Agapida, “did a more gallant and self-confident little army tread the earth. It was composed of men full of health and vigour, *to whom war was a pastime and delight!* They had spared no expense in their equipments, for never was the pomp of war carried to a higher pitch, than among the proud chivalry of Spain. Cased in armour richly inlaid and embossed, decked with rich surcoats and waving plumes, and superbly mounted on Andalusian steeds, they pranced out of Antiguera with banners flying, and waving devices and armorial bearings ostentatiously displayed; and, in the confidence of their hopes, promised the inhabitants to enrich them with the spoils of Malaga.”

M. de Marles thus describes the commencement of the same expedition:—“The Marquis of Cadiz, the Count of Cifuentes, and the Grand-Master of St Jago, headed the expedition, which,

at first, met with the *happiest* success; if we can call by that name the melancholy advantage of burning the ripe standing corn, rasing the olives and the vines, carrying off the cattle, and ruining and massacring the defenceless inhabitants."—Other authors confirm the worst of this; and one of them adds, "*THEY SPARED NOTHING.*" Such was their pastime and delight.

Much is to be found in the periodical called the *United Service Journal* laudatory of war, and of course indifferent to its horrors. A letter in that *Journal* (p. 523 of the Number of 1st October 1830) has the following precious passage, indicative of the civilization of the age:—"My object is to record a fact, for the information of the honest and worthy John Bulls, who will not love their king the less for knowing, that, as soon as parental authority, and state necessity admitted it, he was most anxious to be *at* their natural-born enemy the French!" That this could be addressed to and applauded by the British public in 1830, will not be credited at a future and less barbarous period. But ours is an age of religious forms, church-goings, superstitions, fanaticisms, and hypocrisies,—not *yet* of practical Christianity.

There appear to us to be two obstacles to the progress and usefulness of the peace societies; first, they disallow defensive war, and thereby prove too much—a great practical as well as logical error; and, secondly, they do not try war by the natural laws—the ethics of creation; in other words, by the principles of a sound philosophy of man and human affairs, in addition to its scriptural proscription.

1st, The principle of the association of the peace societies is, that war, defensive as well as aggressive, stands condemned by specific precepts, as well as by the whole scope and tendency of Christianity.

No person, even of the most moderate reflecting power, will dispute that aggressive war, and the Message of peace and good will to men, are in an antipodal relation to each other. One of the scriptural denunciations against it is, that it cannot prosper, and that its failure shall be brought about by the just defensive war which is opposed to it. "All they who take the sword shall perish with the sword;" in whose hand this last, but in that of the defensive warrior, or the avenging magistrate? This is not the place to invite an exegetical controversy on Scripture authority, nor is it necessary, for other writers have saved us this task. Mr Sheppard, a very orthodox writer, author of "*An Inquiry on the Duty of Christians with respect to War,*" has shown, in the most unanswerable manner, that the non-resistance of the quakers, moravians, and peace societies, is founded upon a literal and unconditional interpretation of a few

precepts, enjoining meek submission to injuries and insults, evidently of temporary and special application to the disciples; while these precepts are opposed by many times their number of passages authorising suppression of, and of course resistance to, criminal aggression and violence, whether natives or foreigners—one robber or an hundred thousand be the author or authors of it. If the sword is not to be born in vain against evil doers, that sword must, in its strength and multiplication, be proportioned to meet the force and numbers of the evil doers. The peace societies are inconsistent, if they do not also disavow the implied force of civil government in the resistance of outrages and crimes; but they do not say that the midnight thief or highway robber is to have our coat as well as our cloak; still less do they extend this privilege to a band of ten, or twenty, or a hundred robbers; it is only when a hundred thousand come from another country that they are not to be resisted. But Mr Sheppard requires yet more of the unconditional literalists—to whom he imputes the very best motives, as we do;—he requires a consistency on other points in this mode of interpretation. They must “give to every one that asketh;” they must “forsake all that they have;” they must “cease to labour for the meat that perisheth;” they must “hate father, mother, brother, and sister;” they must “pray without ceasing;” they must “cut off a right hand, and pluck out a right eye,” if they offend. Now, as they use the freedom to interpret literally in all these particulars, it is not too much to ask them to revise their interpretation of their texts on the subject of war, and compare them with many others utterly inconsistent with their unqualifiedly literal adoption.

The peace societies argue, that the earlier Christians, by whom they mean those who lived in the three first centuries, abjured war; and they adduce instances of individuals suffering death rather than be enrolled as soldiers. It is, however, too much to claim infallibility for the Christians of the three first centuries, merely because they lived nearer the times of the apostles. The persons subject to be enrolled as soldiers must have been of the lower and more ignorant classes, in a period itself of extreme darkness; while we have the Record as pure as they had it, and can bring more knowledge to its interpretation. Weight is given to their practice, because they must have had the benefit of a very short tradition from the apostles. But we find the apostles themselves wearing swords, and enjoined to sell their garments to buy them.

So far from weakening their cause, the friends of peace would increase the power of their appeal by a lofty summons to the defensive field, to scatter those who delight in war. Dr Chalmers advocates defensive war, and could furnish eloquence, were

it called for, which would crowd the standard of patriotism, justice, and reason, with a zeal not inferior to that wherewith the hermit of the crusades surrounded the banners of ignorance, superstition, and enthusiasm. In a sermon on the subject, preached in 1816, he divides the labour of the friends of peace. "Let one take up the question of war in its principle, and make the full weight of his moral severity rest upon it, and upon all its abominations. Let another take up the question of war in its consequences, and bring his every power of graphical description to the task of presenting an awakened public with an impressive detail of its cruelties and its horrors. Let another neutralise the poetry of war, and dismantle it of all those bewitching splendours which the hand of misguided genius has thrown over it. Let another teach the world a truer and more magnanimous path to national glory than any country of the world has yet walked in. Let another tell with irresistible argument, how the Christian ethics of a nation are at one with the Christian ethics of its humblest individual. Let another bring all the resources of his political science to unfold the vast energies of defensive war, and shew that, instead of that ceaseless jealousy and disquietude, which are ever keeping alive the flame of hostility among the nations, each may wait in prepared security, till the first footstep of an invader shall be the signal for mustering around the standard of its outraged rights, all the steel, and spirit, and patriotism of the country."

There is a community, and, as far as we know, only one on the face of the globe, whose external relations are founded on the strictest principle of defensive war alone; and that is the colony of free Negroes, established by the Americans, on the coast of Africa, at Montserado, 300 miles south of Sierra Leon. After a struggle with every variety of misfortune, the colonists are now in number nearly 2000. Besides preventing the slave-trade along a great line of coast, and, by their example, inviting the savages around them to apply themselves to the arts of peace, by which the fruits of civilisation are made apparent to them, they have, by two successive victories over several hostile tribes that combined to annihilate them, established a character for formidable military power, which has not only protected them from farther aggression, but rendered their alliance an object of the greatest competition to the tribes in their neighbourhood. The colonists answered, when entreated by each of two nations at war to assist them against the other, that they would spare no pains to restore peace between the contending parties, but never would engage in war but in self-defence. The defensive war of the colonists, when called for, was in the highest degree energetic, and what, according to the established phraseology, may be called gallant, and even brilliant; and their

numerous enemies were scattered before them. But actuated, as all their measures are, by the spirit of practical Christianity, they were merciful even in their vengeance. "The second discharge of a brass field-piece, double-shotted with ball and grape, brought the whole body of the enemy to a stand. The gun was well served, and appeared to do great execution. The havoc would have been greater, had not the fire, from motives of humanity, been so directed as to clear the dwellings, about which the enemy's force was gathered in heavy masses. These houses were known at that moment to contain more than twelve helpless women and children.*"

We cannot enter into the niceties of the question of defensive war, or define the limits of its definition. It is said that all *just* war is justifiable. But the question is a difficult one,—What is just war? If, as we think, protection of territory, person, and property, be all that is lawful, we are bound to wait 'prepared' till attacked, as in the case of other crimes. The licence of an *anticipating* defensive war, to destroy the enemy's preparations, military or naval, must lead to so much abuse, that wars would go on without diminution on that principle; while repelling the actual attack can admit of no doubt or difficulty, and is a limitation essential to the higher morality of war, which we advocate. Temperance societies, in the same way, admit that ardent spirits may be used in moderation; but a line must be drawn, and that, to do any good, must be total abstinence.

The second obstacle to the progress of the peace societies is, that they take no aid from a sound philosophy of man, and the natural laws which regulate human affairs.

The quakers fall into the error of the peace societies, in disdaining to take any aid from what they are too apt to vilify under the denomination of Nature. They, in common with many other sincere Christians, have a confused superstitious notion that nature is not of God, nay, is actually opposed to His revealed word; and they denounce every appeal to Nature as direct infidelity. The quakers, with the best intentions, go deeply into this error, and reject the most innocent enjoyments for which God has provided the organs in man, and the corresponding materials and qualities in the external world. They denounce, for example, the exquisite and guiltless pleasure of music, for which are established in nature and in man so wonderful an apparatus and capability; they shun that inviting combination of graceful and rhythmic motion, the dance, for which have been beautifully suited, not only the limbs, but the brain, of man, to the extent in the young of an almost irresist-

* See an interesting account of the Colony, called Liberia, compiled from American documents, by the Rev. W. Innes of Edinburgh.

tible impulse;—in a word, by a denial of Scripture, as well as of Nature, they will neither pipe nor dance, and must be held to protest against the festivities which celebrated the return of the prodigal son. We have heard of a quaker who indignantly uprooted a tulip-bed, incautiously cultivated by his wife in his absence, and cast the “gawdy vanities” away; profoundly ignorant that he thereby impiously offered an affront to that Benevolence which provided the array of the lily, preferred it to the glory of the most splendid of kings, and addressed its beauties to specific faculties of man, by which these beauties are considered and enjoyed.

But the peace societies and the quakers are not singular in being doomed to work without this last mentioned light, as there are yet scarcely any human institutions working by it. In the influence which Phrenology is destined to operate on human affairs, there is no evil it will tend more to abate than that of war. On the one hand, the endowment of the human mind with faculties for the resistance of aggression, not merely by *combating*, but *destroying*, the aggressor—demonstrates *that* to be one way in which aggression is prevented or punished. Nature makes no distinction in the impulse to resist or self-defend, whether the attack be made by a tiger, or an assassin—a troop of warriors, or a troop of wolves. Had it been the design of the Creator, who does nothing in vain, that man should passively hold out his throat to the knife or the fang of man or beast, he would not have endowed him with faculties which are roused by such aggression, and, by an instinct peculiar to themselves, repel the danger, by the discomfiture, or, if necessary, the destruction of the assailant. On the other hand, while these faculties have been bestowed to protect man's existence on the face of the earth, they are not the only impulses—nay, they are not the chief or paramount impulses of his nature, in relation to his fellow men, and the sentient creation around him. If they were, then aggressive war would accord with the intentions of the Creator. It would gratify Combativeness and Destructiveness in its strife and blood, Acquisitiveness in its spoils, and Self-esteem and Love of Approbation in its glories and triumphs; and these faculties bestowed to be gratified, and not to be regulated, would revel in their essential selfishness. In the faculties of Benevolence and Conscientiousness we read, in the handwriting of perfect Wisdom and Goodness, that Mercy and Justice were designed to be the basis of Creation,—the key-notes with which every other faculty of man must be in tune; otherwise, moral discord will jar throughout the disturbed harmonies of the Universe. The mere existence of these high moral impulses demonstrates their rank in the mind of man. He possesses the animal propensities to combat and destroy in common with the

lower animals. Had it been the Divine will that these should paramously characterise man, the impulses to mercy and justice would not have been superadded. But both of these faculties, and especially mercy, are, in their very nature, the regulators of Combativeness and Destructiveness, to which they bear direct relation;—nay, the existence of a sentiment of mercy in man had been a solecism, but for the co-existence of an impulse the abuse of which is cruelty; whereas Destructiveness might have been given to man, as to the tiger, without Benevolence. But Benevolence *has been* given to man; it has been superadded; and the mere fact of superaddition demonstrates the godlike purpose that a controlling influence should belong to it. It follows, that aggression of all kinds is at variance with the functions of Benevolence and Conscientiousness; but, seeing that Combativeness and Destructiveness are only regulated, not eradicated, it seems to follow, that self-preservation, or protection of person and property, is their legitimate application. It is worth observing, that Gall himself, manifestly with this limitation in his eye, denominates Combativeness the organ of the defence of self and property. It is needless to enlarge farther on this view of our warlike propensities. Aggressive war is an abuse of the combative and destructive faculties, and a direct defiance of those of justice and mercy. When this truth becomes impressed on man, by an education which shall unfold to him his own constitution, with its relation to creation, and the conditions of his happiness, aggressive war will be to him a moral impossibility; he will shrink from its plunder and its cruelty as from the most atrocious crimes, and will spurn from him all the witchery of its pomp and poetry, its pride and glory, as the garbage of appetites in alliance with the lowest propensities, and disowned, in such glaring abuse, by the higher sentiments and the intellect. Christianity, as *taught* and *preached*, has done nothing to reduce the moral rank of what have been absurdly called the warlike virtues. Hosannahs are chaunted for great slaughters, and captured banners hung in Christian temples. The pulpit is all animation with apostrophes to the hero's laurels, and ambitiously eloquent in his praise; and many a young bosom has left the warlike "Thanksgiving," beating high "with zeal to destroy," and longing to shed blood:

"For who should study to prefer a peace,
When holy churchmen take delight in broils."

There is little ground for exceptions. The British clergy themselves have held *all* the wars of Britain, each in its turn, to be just and necessary, and her victories divine interpositions. Society is full of practical inconsistencies, but there are none more glaring than this. When Christianity shall be taught in consistency with its essence, when it shall be practised in obedience

to its spirit, and when, in addition, the legitimate use of the human faculties, and their respective rank in the moral scale, shall form a part of human knowledge, practically imbued and applied,—then, but not till then, will the poetry of war be neutralised, and genius, no longer misguided, refuse to invest it with a meretricious mantle of glory; then will be pointed out the true path to national greatness, and national happiness; and then will be read by every one who runneth, that the ethics of Nature are at one with the ethics of Christianity.

It is a grievous error, yet cherished, that the poetry and chivalry, even the trappings of war, ought not to be discouraged, inasmuch as they tend to divest war of its coarseness and ferocity, and likewise excite and maintain a spirit of heroic self-devotion, essential to the strictest defensive war. Those who argue thus, believe that, without *these* incitements, men would become effeminate and unwarlike. No phrenologist can consistently admit this. It would be to admit, that the inferior feeling of mere vanity is indispensable to the energy of patriotic courage. Already a higher and nobler principle animates the patriotic warrior, and still more would a lofty moral impulse and satisfied intellect be his guides, when all the vanities of war shall be dismissed, and the defender of his country shall go forth to put down invasion, as he would to abate pestilence, lamenting, in sober seriousness, the necessity, but resolutely meeting the evil. There were no pomps, trappings, or vanities, on the Swiss side in the battle of Montgarden. The difference between such motives, and the poetical and chivalrous, is evident. The latter, as inferior and selfish feelings, operate as inducements to go to war, as a gratification; the former go forth to the battle as a stern and lamented necessity. It is, therefore, that the friends of peace deprecate the pomp and pride, the poetry and splendours, of war, as its chief instigations.

One department of the labour of abating war even Dr Chalmers has omitted; and, strange to say, it is that, without which all his other eloquent allotments serve only to point his moral and adorn his tale: even he has not dreamed that the first step in the progress is to shut the temple of Janus against the footsteps of the young—to regulate their warlike education—to nurse the infant mind in horror of aggressive and revengeful war—to associate such war with crime, and defensive bravery alone with virtue—to keep from the hands of youth the war-inspiring literature of Greece and Rome—and to inculcate history itself, at a suitable age, and with that discrimination and judgment which shall hold up unjust wars as beacons of abhorrent avoidance, practically associate peace with all that is truly glorious, and inspire with martial ardour for the preservation of peace and the defence of country alone.

Last of all, it is worthy of remark, that the times never were, in the history of man, more favourable than now for the spread of a pacific counterpoise to the too long continued preponderance of the scale of war. Exhausted sinews have forced upon Europe a truce, with little variation, for seventeen years. Poverty, if not will, has withheld fleets and armies, and arms and ordnance, from the grasp of her potentates; and wounds scarcely healed, and horrors yet recent, have created a marked reluctance to revive such atrocious struggles. The interval is telling morally upon the public mind, and furnishing higher principles, and loftier topics to legislators and princes. During the period mentioned, occasions of war have again and again occurred, which would have plunged the last generation into bloody contests and overwhelming expenditure. They have all passed over, either disregarded by a rational conviction of their insignificance, or settled, when really important, by conventional arbitration,—a realization of the council of nations, which nations may render practicable, if they please. In the British Parliament, the ministers of the Crown themselves have denounced the man or the state that shall first disturb the repose of Europe as an enemy of the human race. Let those who hold the prospect of universal peace not merely distant, as we do, but utterly chimerical, as we do not, look to the internal peace which prevails in this and other countries, once torn by wars, and the general improvement in the contemplation of war already attained. Give but time, and the feeling will strengthen by every year of peace. Let the press contribute to its growth—to the growth of justice and reason, with all its best and most concentrated energies, and teach that, by the Creator's fiat, Justice and Reason, must ultimately prevail. A true view of self-interest even will diminish wars, in the progress of that enlightenment which shews a people their best policy. Let the Peace Societies revise their standards, expand their principles to embrace the oracles of God's works, as well as the oracles of his word, open wider their doors, and send their bolts direct to the mark, instead of losing influence by overshooting it, and leaving exposed to the sneers of the scoffer, who is utterly unqualified to appreciate the practicability of their object, an ultra Utopianism, which by no means belongs to its essential character. Let the clergy be peace-makers in their pulpits and their parishes, the schoolmaster—above all, the infant-schoolmaster, whose immense advantage is the pliant faculties of childhood—in all his tuitions inculcate practical meekness, and the beatitude of the inheritance of the earth, instead of being a reward as little understood as deserved, will in due time be realized in the course and operations of the established laws of God's providence, of which his Word is a declaratory confirmation.

ARTICLE IV.

ON THE UTILITY AND PRACTICABILITY OF ELEMENTARY INSTRUCTION IN THE NATURAL SCIENCES DURING YOUTH.*

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

SIR,—In the Number of your Journal for January, the attention of its readers was directed to the excellent work of Dr Drummond, entitled, *Letters to a Young Naturalist on the Study of Nature and Natural Theology*. Since then two other works bearing on the same subject have appeared, the one of which farther satisfactorily establishes the important truths inculcated by Dr Drummond, as well as the practicability of carrying his views into effect; and the other, the important and beneficial consequences, in regard to health and longevity, that would thereby speedily result to all ranks of the community. The publications of Mr Brayley and Mr Thackrah are those referred to,—the following summary of which have been suggested, by the perusal of the many very interesting and highly useful articles on education which have appeared in the *Phrenological Journal*. Should you think this summary and remarks also worth insertion in its pages, as a sequel perhaps to the article first above noticed, you would, by so doing, oblige one of the most constant of its readers.

March 1. 1832.

F.

By many, it has been long and anxiously wished that the study of the Natural Sciences were rendered more subservient to the every day concerns of life, and also a means of illustrating, not only the existence, but likewise the attributes, of the Great Creator. Then would there be more enlarged and juster conceptions of his providence, much of the misery of this life would be averted, and the mind would be better prepared for understanding the important truths of the Gospel.

The system of education of youth so long pursued in the public seminaries of this and other countries, is now generally admitted to be very defective, and to have had baneful effects upon society at large. The time and attention of the earlier period of life have been wholly engrossed with the languages and manners of people who lived many centuries ago, and whose customs are exhibited by the writers of those times as the pattern of honour and virtue. These languages, however, are of little or no utility to at least nine-tenths of those who are compelled to study them; and the customs, with very few exceptions, must

* Read before the Society for the Encouragement of the Useful Arts in Scotland, 4th April 1832.

now appear, to every enlightened and well-constituted mind, brutal and barbarous in the extreme. Hence the ignorance, in regard to the practical concerns of their own times, which so generally exists among even the better educated classes of society; and hence also the imperfect state of our religious and moral institutions; and, consequently, much of the immorality and disease which now prevail.

It is not at present intended to trace the causes of any particular class of evils, but merely to give the opinions of others, in regard to the academical course of instruction which the aspect of the times now renders it necessary to pursue, and to state our decided conviction, that until a great change be effected in the general system of education, little permanent amelioration can be expected in the circumstances of the people. For accomplishing so desirable an object, much has lately been done by various philanthropic individuals. According to the systems of Wood, Wilderspin, Pestalozzi, and others, words only are no longer taught in many of our schools, but likewise ideas; and these in the two latter are illustrated by pictorial representations and real exhibition of the more familiar objects of nature. Real and useful knowledge has therefore now begun to be instilled into the minds of youth, and the system only requires to be carried a little farther, in order to secure those beneficial effects which it is intended and so well calculated to produce.

But if so much has already been done by pictorial representation, and that chiefly in childhood, how much more might be accomplished were familiar objects, as they really exist in nature, next presented to the eye; and were their various structures and properties, as well as their more important uses, demonstrated and explained, before that period of life when youth must leave school, and betake themselves to those professions in which they are afterwards to be engaged during life? With regard to the great mass of the community, we do not hesitate to affirm, that were one year only devoted by boys to the study of Nature, immediately before being put to their apprenticeships, the knowledge then acquired would ultimately prove of more real utility than that usually obtained during a seven years' servitude. It has been well remarked, that "all those secular pursuits which tend to augment the true happiness of the individual, while they contribute at the same time to the welfare of society at large, are resolvable, either directly or indirectly, into the control or resistance of the powers of nature, and to the acquisition of that degree of knowledge concerning them, which is necessary effectually to subdue them, or to counteract their injurious influence." "Every thing man has in view as desirable, in any condition of existence, is designed by him either to contribute to his well-being in this world,—to the healthy and secure enjoyment of all

his means of gratification, whether of the senses or of the mind, —or, by enabling him, in a more perfect manner, to apprehend and comply with the requirements of Revelation, to conduce as preparative means to his eternal happiness." Of how much importance, then, is it, that we acquire in youth some intimate knowledge of those natural objects by which we are surrounded, and upon the proper understanding and use of which, our comfort and happiness so much depend? The divine would be thereby better enabled to explain and illustrate to all classes of his hearers, the works of creation and providence, the wonderful and beautiful laws by which these continue to be governed, and the inevitable consequences which must fall upon man, by his violating the very least of these laws. What is it that enables the physician to avert and cure so many diseases, but his study of the laws of nature, and the constitution of the animal frame, together with a knowledge of the properties of various gases and substances, which are either noxious or sanative when applied to the living body? What is it that enables one artizan or mechanic to excel another in ingenuity of workmanship, but his superior knowledge and greater facility in the application of natural means to the objects wished to be attained? And, lastly, What is it but the increased knowledge of the objects and powers of nature, which has from time to time been acquired, that enables man now to cultivate, increase, and improve, with so much success, the various products of the mineral, the vegetable, and the animal kingdoms, which are more immediately intended for his use? In short, there is no situation in life where an early acquaintance with Natural History and the collateral sciences will not be of essential service; and no study can be better adapted for training to habits of reflection, morality, and exalted ideas of the great Author of all nature. This latter view, in particular, is beautifully illustrated and enforced in the concluding letter of Dr Drummond's work, and which will be found quoted in the Number of this Journal before referred to.

In it was also noticed the success which had attended the partial experiment of studying one department of Natural History in the Academy at Belfast, but there is now to be noticed an experiment of a still more important character. In 1829, Messrs Hill, the conductors of Hazelwood School, near Birmingham, and of the branch establishment of Bruce Castle, Tottenham, near London, being desirous of adding the study of the Physical Sciences to the various departments of liberal education, as conducted in those establishments, engaged Mr E. W. Brayley jun. Lecturer on Natural Philosophy and Natural History, to give instruction in these sciences. After some experience in the details of imparting such information, and more especially of its beneficial influence on the minds of the pupils, publicity has been given

to the nature and objects of the system of instruction in the Physical Sciences, in an interesting publication by Mr Brayley*. This treatise contains abundant and incontrovertible evidence of the great utility of the study of nature to persons in every rank of life, either for increasing the sources of human enjoyment, or diminishing the causes of disease and misfortune. The following extracts contain but a very small portion of the arguments and illustrations everywhere given in the work.

"If we consider the present aspect of society, with reference, specifically, to the cultivation and extension of Natural Knowledge, we shall discover a scene of equal activity and equal interest. The laws which govern the insensible motions of the particles of matter—which regulate the action of the gases composing the air we breathe, and the water which is almost equally essential to our existence, upon each other, and upon other bodies; laws, which, when developed, teach us how to extract the metals from bodies in appearance entirely dissimilar from them, and to procure from the waters of the ocean a condiment for our food—I allude of course to those which it is the province of Chemistry to investigate—these now form the basis of an extensive department of literature, and have become an almost indispensable branch of polite knowledge. The science of Geology—examining the arrangement and composition of the masses and strata of rock, of stone, and of earthy matter, which constitute the mountains and the plains, and all the solid crust of the earth, together with the remains of animals and plants which they include, whether extinct or still existing species,—has also produced a literature of its own, and become an almost necessary branch of general information."

"The sciences by which we are made acquainted with the phenomena of organized existence—those of Botany and Zoology—have also become objects of extensive interest and of general importance. Public Institutions and Societies have been founded to assist in the promulgation of them, and numerous publications, on every scale of detail and illustration, present their truths to the reception of the people at large. To Zoology, or the natural history of animals, in particular, the attention of the public in general in this country has recently been strongly directed; and the magnificent collection of animals of every class and every clime, in the Vivarium (or Menagerie) and the Museum of the Zoological Society, are still extending this attention and interest among all ranks of the community."

"The aspect which society thus presents, with respect to the pursuit or application of Scientific Knowledge, the increase of the number of professions, either dependent altogether on the acquirement of such knowledge, or into the qualifications for success in which it enters in a considerable degree, and the demand which society now makes for some degree of acquaintance with the objects and powers of nature, from persons of every station and employment, but especially from those who are destined to take an active share in the direction of its concerns;—these, in conjunction with some other considerations hereafter to be mentioned, are the reasons, which, I am authorized to state, have determined the Conductors of the Schools of Hazelwood and Bruce Castle, to introduce instruction in the Physical Sciences, especially in those of Chemistry, Natural Philosophy (including Astronomy and Mechanics), and Natural History, as one of the essential departments of the Education which it is their duty, no less than their pleasure, to impart. Education, in an extended sense, but still confined to that of youth, may be defined the intellectual and moral cultivation of their minds, in order to prepare them

* "The Utility of the Knowledge of Nature considered, with reference to the Introduction of Instruction in the Physical Sciences into the General Education of Youth; comprising, with many additions, the Details of a Public Lecture on that subject, delivered at Hazelwood School, near Birmingham, October 26. 1830. By E. W. Brayley Jun. A. L. S. Lecturer on Natural Philosophy and Natural History, Teacher of the Physical Sciences at the Schools of Hazelwood and Bruce Castle. London, 1831."

for performing, with intelligence and alacrity, the duties which will be required from them in mature life; and in the faithful and efficient discharge of which, in all their relative degrees of utility, their happiness throughout life must essentially consist. Among the duties which the rising generation of the present age will be called upon to discharge, when they have arrived at maturity, it is manifest, from the aspect of society we have just examined, will be many, which will involve or require the possession of scientific knowledge. It is the professed endeavour of the Conductors of these schools to impart the education I have just characterized. They are therefore desirous, so far as they may succeed in communicating to the public an estimate of the value of philosophical attainments, corresponding with that which exists in their own minds, to blend, with this education, so much of instruction in the Knowledge of Nature, especially in Natural Philosophy, Chemistry, and Natural History, as will prepare the minds of their young charges for the duties, involving the possession of such knowledge, which they may in after-life be called upon to perform."

"There are several points of view, under which we may consider the intrinsic utility of the Knowledge of Nature. We may regard it as the means of expanding the intellectual faculties in general, in subservience to Theology; and in protection of the mind from that kind of superstition which is consequent on ignorance of the laws of nature. It may be viewed in its immediate relations to the arts and manufactures. We may consider its importance in the conduct of the ordinary affairs of life, whether as affecting the happiness or comfort of individuals, or that of society at large. The value of uniting the physical with the mathematical sciences may be enforced; and, finally, we may urge some arguments, showing, not merely the general utility of combining a knowledge of nature with the pursuits of Classical and General Literature, but also the advantages specifically derivable from it, in the most profound investigations of the history, the languages, and the arts of civilized antiquity."

"It is unnecessary to enter at much length into the utility of the Knowledge of Nature as a means of expanding the intellectual faculties in general, since this is now generally acknowledged. By a kind of common consent—grounded in the Divine command, 'Replenish the earth and subdue it, and have dominion over every living thing that moveth upon the earth,' and confirmed as it would seem, by a common perception of the truth involved in the epithet—Man is called 'the Lord of the Creation.' And it would be improper, on the present occasion, were I to refrain from contributing my testimony to the justice of this confirmation, from all that I have been able to acquire of Natural History. The entire amount of knowledge hitherto attained by philosophers, of the organization, mutual relations, and reciprocal dependence on each other of all created things, in each of the three kingdoms of nature, appears to me to concentrate in this testimony:—That inorganic bodies in general were created to serve as bases for the structure, as *substrata* in general for the existence, of organized beings—the Mineral for the sake of the Vegetable and Animal kingdoms—and these, indeed the whole of Nature, for the sake of Man. If Man be the Lord of the Creation, it is manifestly important that he should have some knowledge of the beings subject to his authority. It is the province of the Physical Sciences to impart this knowledge. An acquaintance with the forms exhibited by the objects of nature, with the substances of which they consist, and the mutual action of these latter upon each other, and with the indefinite variety of those objects, which constitutes each of the three kingdoms of nature, imparts a peculiar species of precision and firmness to the deductions of the intellect; distinct and very different from that which is communicated by the abstract mathematical consideration of form and quantity, in the study of Arithmetic, the higher species of Calculus, and Geometry, but not less important, I am disposed to urge, as an element of a rightly-constituted mind. The understanding, which has by this means received instruction, in the properties of the irresistible force which has been conferred upon many of the powers of nature, will be disposed, from the manifestation of Omnipotent Wisdom they display,

more readily to entertain an intelligent belief in the miraculous exertions of the same power recorded in the Sacred Scriptures; and reciprocally, the mind thus instructed in the laws of nature, will learn at the same time not to confound the operation of these, in the constant succession of natural phenomena, with miraculous or supernatural interposition, and will be preserved, by such discrimination, from the inroads of superstition."

"With respect also to the importance of scientific knowledge as a means of improving the arts and manufactures, when possessed by those who are engaged in such pursuits, it is scarcely necessary, at the present time, to make many observations. Since the greater number of the useful arts depend for their success either on the application of certain powers of nature to the substances manufactured, or more immediately on the properties of those substances, considered in themselves, it is manifest that a correct and definite knowledge of those powers and substances must eminently conduce to success in manufacturing the latter; especially when new wants of society require novel applications of material." Some examples are then given of the improvements which have been made in certain branches of manufacture and the useful arts, arising, in a direct manner, from scientific knowledge.

"To those, then, who are destined to engage in manufacturing pursuits—especially at this eventful era in the moral and political worlds, when the very existence of civilized communities appears to depend on the development of principles in political economy, hitherto unknown or unregarded, and on the achievement of new conquests over nature in providing the means of life—to those persons, no species of information can be more important, it would appear from the history of Mr Watt's discoveries, than that of Natural Philosophy and Chemistry. With a general knowledge of business, of accounts, and of the details of their respective pursuits in commerce or in trade, they will be qualified for ordinary success, as far as just qualifications for it can be imparted by instruction; but unless they combine with these some insight into the principles upon which their processes of manufacture are conducted, they will be unable to effect improvements which their more enlightened rivals will introduce; and they will consequently be unable to compete with them in the sale of their manufactures."

These observations Mr Brayley farther illustrates in a very conclusive manner, by references to some of the details of ship-building and navigation,—to Mr Watt's series of inventions for improving the steam-engine,—to Mr Barlow's investigation of the laws of magnetic attraction,—and to the utility of combining a knowledge of nature with the pursuits of classical literature, as well as with all the ordinary affairs of life, whether affecting the welfare of individuals, or that of society at large.

The complete course of scientific instruction intended to be taught at the schools of Hazelwood and Bruce Castle, is very comprehensive, embracing Chemistry, Natural Philosophy, Natural History, Physical Geography, Magnetism and Astronomy. Elementary instruction in these departments has been more or less extended to all the pupils, but particular attention has been paid to Natural History and Chemistry, and to such other branches as seemed likely to be the more generally useful, and as appeared to be most approved of by the parents or friends of the pupils. The plan of teaching is, first, by lectures addressed to the entire school in the usual way, and, next, by lessons given out to classes. The time occupied in each lecture is generally from forty to fifty minutes, and the remainder of the

hour is employed by the pupils in asking and receiving explanations. The teacher is always assisted by one or more of the boys in arranging the apparatus and specimens for the lectures, as well as in performing any experiments during their delivery; and it is worthy of remark, that, from the last hour of "school" being appropriated to the Lectures, the preparations have had to be made "out of school hours," and that these were done frequently in lieu of play, with much zeal and attention. A collection of mineralogical and other objects in Natural History has been attached to these seminaries; and, as far as possible, specimens, examples, or drawings, of every natural object mentioned in the lectures, are always exhibited on the lecture table.

Mr Brayley concludes his valuable treatise with a detailed and illustrative syllabus of his juvenile course of instructions in the "Physical Sciences;" he mentions the books which he considers best adapted for each department; and earnestly solicits the attention of the public to the general system of education now begun to be carried into effect, being convinced "that the *elementary* cultivation, in youth, of all the faculties of the human mind, is indispensable to the happiness of the human race."

In these remarks we cordially concur; but there is one particular topic on which we think, he has not sufficiently dilated, and that is, the immense mass of misery, disease, and mortality, at present resulting from the great ignorance, among all classes, of the most obvious laws of nature, as applicable to the human race. It is lamentable to think, that while man is straining every nerve for the advancement of the arts and sciences,—for increasing the products of the ground, and for improving the breeds of our most common domestic animals;—yet that, to the organization of man himself, and its relation to external nature, surely by far the most interesting subjects for examination and reflection, so little attention has been paid. It has long been ascertained, that not above one-half of the population born in towns ever survive two years of age, and that a great proportion of the other half are involved in such diseases as cut them off either before or soon after reaching manhood, comparatively few, indeed, ever arriving at the period of old age. Notwithstanding of this frightful state of things, however, and all the miseries attendant thereon, seldom or never, it is believed, has any energetic attempt been made to ascertain and remove the remote or more immediate causes of such mortality among the various classes of the inhabitants in our manufacturing districts and large towns. Intemperance, and the want of proper nourishment, are known to be powerfully predisposing causes to disease among the labouring classes; but the noxious effects of the different substances used in various trades, of the vitiated atmospheres, and of the constrained and recumbent position of the body, have

been all too much overlooked. A work *, however, has lately appeared, likely to attract some attention to these subjects, and which exhibits not only a comprehensive view of the diseases and premature mortality more peculiarly applicable to upwards of 150 specified trades and professions, but also the agents which produce them, with suggestions for their removal. The inhabitants of Leeds and its manufactures are those to which the inquiry relates. The following are some of the author's introductory remarks in regard to the objects of his investigation.

"Man, in his several relations, is assuredly the most interesting subject for examination and reflection. His external form, his internal structure, the number and complexity of organs, their harmony and mutual support, the surprising power which restores injured parts, the organs which, connecting man with his fellows and the world, are the agents of social relation,—these exhibit the first animal in the universe—the work of a Creator all-wise and benevolent.

"Though we cannot rival the agency of superior wisdom; though we can neither make man, nor improve his original organization; we *may* reduce his character, weaken his frame, and bring on him premature decay and death. It is one thing, indeed, to view this being, as God made him: it is another, to examine him in a state of moral and physical degradation."

"If we turn our view from man to his works, we see the wilderness converted into towns and cities, roads cut through mountains, bridges carried over rivers and even arms of the sea, ships which traverse the globe, lakes converted into corn-fields, forests made into pasture, and barren rocks covered with timber;—in a word, we see the face of the world changed by human will and human power."

"These, and works like these, are assuredly wonderful. But while we admire, let us examine. What are the effects of these surprising works—effects, I mean physical and moral? I say nothing of the wealth they produce or have produced, for wealth is good or evil according to its application: I refer to the health of fifty thousand persons, who spend their lives in the manufactories of Leeds and its neighbourhood, or in allied and dependent occupations. I ask, if these fifty thousand persons enjoy that vigour of body which is ever a direct good, and without which all other advantages are comparatively worthless? I ask, if the duration of life is as great here as in the agricultural districts?

"To come more immediately home, let us compare the mortality in Leeds with that of a town destitute of manufactures; and afterwards with that of a merely agricultural district. I take at random Ripon and Pickering Lythe. In 1821, the population of the town and borough of Leeds was 83,796, and the burials were 1516, or one death in 55 persons. In the liberty of Ripon at the same time, the population was 12,131, and the burials were 180, or one death in 67½. But Ripon being subject in a degree at least to the evils of a town, we are required to compare the mortality at Leeds with that of an agricultural district, where the people and their habitations are not crowded. Pickering Lythe returned in 1821 a population of 16,232, and the number of burials 205; one death consequently in 74 persons. Taking, then, the mortality at Pickering Lythe as the natural one, there was an excess of 321 deaths in the borough of Leeds in 1821. And allowing for the increase of population since that period, we may fairly say that at least 450 persons die annually in the borough of Leeds, from the injurious effects of manufactures, the crowded state of population, and the consequent bad habits of life! We may say that every day of the year is carried to the grave the

* "The Effects of the Principal Arts, Trades, and Professions, and of Civic States and Habits of Living, on Health and Longevity; with a particular reference to the Trades and Manufactures of Leeds: and Suggestions for the Removal of many of the Agents which Produce Disease, and Shorten the Duration of Life. By C. Turner Thackrah. London, 1831."

corpses of an individual whom nature would have long preserved in health and vigour ;—every day we see sacrificed to the artificial state of society one, and sometimes two victims, whom the destinies of nature would have spared.”

“ The destruction of 450 persons year by year in the borough of Leeds cannot be considered by any benevolent mind as an insignificant affair. Still less can the impaired health, the lingering ailments, the premature decay, mental and corporeal, of nine-tenths of the survivors, be a subject of indifference. Assuredly, an examination into the state of our manufactures has long been demanded, alike by humanity and by science.”

“ Either diseases are artificially multiplied, or they are not. If inquiry prove the affirmative, surely self-interest, as well as benevolence, demands a full investigation into the causes of the evil :—if the negative, we shall rest contented, gratified with the idea that our employments are not baneful, and that the excess of mortality is the infliction of Providence, not the agency of man.

“ Most persons, who reflect on the subject, will be inclined to admit that our employments are in a considerable degree injurious to the health ; but they believe, or profess to believe, that the evils cannot be counteracted, and urge that an investigation of such evil can produce only pain and discontent. From a reference to fact and observation I reply, that in many of our occupations, the injurious agents might be immediately removed or diminished. Evils are suffered to exist, even where the means of correction are known and easily applied. Thoughtlessness or apathy is the only obstacle to success. But even where no adequate remedy immediately presents itself, observation and discussion will rarely fail to find one. We might even say, that the human mind cannot be fairly and perseveringly applied to a subject of this kind, without decided effect.”

Mr Thackrah has divided the inhabitants of Leeds and its neighbourhood into four great classes, viz. Operatives, Dealers, Master Manufacturers and Merchants, and Professional Men ; and in examining the state of these severally, has adverted to the atmosphere they breathe, the muscular exercise taken, the postures of body maintained, the variations of temperature and humidity to which they are exposed, their diets and habits of life, and finally, in some classes, the state of mind. The circumstances in which these are favourable, as well as those that are unfavourable to health, are likewise pointed out, in order to remove unfounded apprehensions, as well as to expose the real agents of disease.

The circumstances which are favourable to health, in the present state of society, are of course very limited, and are applicable only to persons whose employments are chiefly out of doors, and to such professional men as are engaged in mental or literary pursuits, conjoined with considerable exercise in the open air. These two classes, however, form a very inconsiderable portion of the community ; while the great majority, again, of operatives, dealers, merchants, and manufacturers, together with children at school, and many professional persons who have much mental application, without adequate exercise of the body, are all exposed to the pernicious influence of impure atmospheres, long continuance of labour, with constrained or unnatural positions of the body, of sudden changes of temperature,

and various other agents destructive to health and life. Intemperance and irregular habits are likewise, as is well known, powerful auxiliaries to the general catalogue of predisposing causes of disease among all classes of men.

Out of delicacy, it is presumed, our author has taken little or no notice of the origin of a class of diseases to which the female sex are more particularly liable. But a "Lady of Distinction" has not overlooked them, and has not hesitated to shew her fair sisters, "where the fashions of the day would lead them wrong,—where the laws of Heaven and man's approving reason would keep them right." The former of these are chiefly said to be—indordinate eating, drinking, and late hours; the latter, temperance, exercise, and cleanliness. Such expressions, as applicable to ladies, may appear startling, but the authority must be our excuse for using them. The following graphic sketch is also given by her ladyship, by way of addition and explanation:

"Besides, when we add to this evil the present mode of bracing the digestive part of the body, in what is called *long stays*, to what an extent must reach the baneful effects of a protracted and abundant repast? Indeed, I am fully persuaded that long fasting, late dining, and the excessive repletion then taken into the exhausted stomach, with the tight pressure of steel and whalebone on the most susceptible parts of the frame then called into action, and the midnight, nay, morning hours, of lingering pleasure, are the positive causes of colds taken, bilious fevers, consumptions, and atrophies. By the means enumerated, the firm texture of the constitution is broken, and the principles of health being in a manner decomposed, the finest parts fly off, and the dregs maintain the poor survivor of herself, in a sad kind of artificial existence. Delicate proportion gives place either to miserable leanness or shapeless fat. The once fair skin assumes a pallid rigidity, or a bloated redness, which the vain possessor would still regard as the roses of health and beauty.

"To repair these ravages, comes the aid of padding, to give shape where there is none; long stays, to compress into form the chaos of flesh; and paints of all hues to rectify the disorder of the complexion. But useless are these attempts. If dissipation, disease, and immoderation, have wrecked the fair vessel of female charms, it is not in the power of Esculapius himself to refit the shattered bark; or of the Syrens, with all their songs and wiles, to conjure its battered sides from the rocks, and make it ride the seas in gallant trim again *."

The appalling rates of sickness and mortality, which have been every where found to prevail among the different ranks of society, are, therefore, not at all surprising; but it must at the same time be obvious, that the excess is owing to the agency of man, and not to the immediate infliction of Providence. Down to a late period, no useful philosophy of man himself has existed. Metaphysical systems contained no element susceptible of practical application; and anatomy and physiology were studied and taught with exclusive reference to the professional treatment of actual disease. Now that a philosophy of mind based on phy-

* "The Mirror of the Graces, or the English Lady's Costume. Edinburgh, 1830."

siology, and a system of physiology embracing mind as one of its departments, have been discovered, the practical adaptation of human conduct to the existing laws of creation cannot be much longer deferred. Whenever this shall be realized, it will be acknowledged, that what have been called the Laws of Sickness and Mortality are not invariable, but are merely, at least before the period of old age, exceptions to the fundamental laws of health and longevity. These exceptions are no doubt numerous, but, in proportion as a knowledge of the works and laws of Nature become more general, the causes of these exceptions will be rendered more apparent, and means be speedily adopted for their prevention and removal. These means, too, will be found extremely simple,—chiefly consisting of moderate labour, temperance, cleanliness, ventilation, muscular exercise, serenity of mind, and an elementary knowledge of the structure and functions of the principal organs of the human body*. It is much to be regretted, however, as justly remarked by Mr Thackrah, that subjects like these find no entry at present in the books of our merchants or tradesmen; they, intent on their avocations, strangely overlooking the very means necessary for pursuing them with pleasure and success; whereas, had they a taste for Natural History, its pursuits would be a recreation not only delightful, but likewise highly beneficial in every profession. “We may only add,” says he, “that a man addicted to pursuits like these,—the various pursuits, I mean, of natural knowledge,—can scarcely be a bad man. A judicious parent would be far more anxious to give his children a taste for natural knowledge than for literature. They might gain neither present nor ultimate fame, but they would obtain that moderate and serene enjoyment, that ‘*tranquillitas animi*,’ the ‘*animus sine perturbatione*,’ to which Seneca repeatedly and justly refers as the greatest of temporal blessings.”

By philanthropic efforts and investigations such as those we have been now considering, it is obvious that a great improvement will be speedily effected in our public and private seminaries of education. Philosophical societies and associations for the encouragement of the fine and useful arts, would do well to patronise every attempt to accomplish so desirable a change. The chief obstacles likely to be encountered at the commencement will be the want of collections of objects in natural history and scientific apparatus; but the former class of institu-

* Perhaps there are few if any works wherein the miseries of mankind referable to infringements of the laws of nature, are more familiarly or more forcibly illustrated, than in an Essay on the Constitution of Man, and its relations to external objects, by Mr George Combe. In the Numbers of this Journal will also be found many articles on education in general, and more especially with respect to the importance of instruction in the natural sciences during youth.

tions would, without doubt, willingly for some time at first aid in overcoming these difficulties, by the temporary use of the requisite articles in their museums, and the latter associations by their patronage and pecuniary assistance. At the beginning only, would such aid be necessary ; for, as at Belfast, the pupils would soon form museums for themselves, and the fees would speedily be adequate for all other purposes.

The only objections hitherto urged to scientific instruction in early youth, are the alleged incapacity of the mind for it at that period, and its interference with the time which should be devoted to other studies. But it has been already seen, that in practice such objections do not apply ; and it will be apparent to all, that whatever at the same time tends both to amuse and instruct, must not only be a healthy relaxation from severer studies, but act beneficially upon the faculties of memory and reflection. The study of Geology, Botany, and Chemistry, for example, must prove peculiarly applicable to the inquisitive and ardent minds of youth, as may be readily conceived from the extreme fondness of all children at the earliest age for "pretty stones," the daisy, and other plants of our fields, and the pleasure they also take in producing the light air-bubble, by means of soapy water and the common tobacco-pipe. Indeed, whatever requires to be taught chiefly by means of the organs of seeing and hearing, is extremely well adapted to the earlier periods of life, the intention and order of Nature being, that these faculties should be exercised before those of intellect.

It is much to be wished that the study of the natural sciences were more attended to in the education of Females. On them the health, morals, and intellectual state of society must be always much dependent, for they are the natural guardians of the young, and, of course, "as the twig is bent, the tree's inclined*."

In Edinburgh, Dr D. B. Reid, the able assistant of our eminent Professor of Chemistry, has already taken the lead in instructing the youth of both sexes in the elementary principles of that attractive and useful science, and his success, both in regard to the number of pupils, and their progress in the study, has exceeded all expectation. Another gentleman, equally well qua-

* In the "Belfast News-Letter" of 24th February last, it is mentioned that Mr James Bryce delivered his introductory lecture on Geology, on the Wednesday preceding, in the room of the Natural History Society. The audience was extremely numerous and respectable, including a large assemblage of ladies. A universal interest seemed to be felt in the subject, and so crowded was the room, that many persons were obliged, from want of accommodation, to retire before the lecture commenced. Mr B. concluded his very comprehensive and interesting lecture, by shewing the importance of a knowledge of geology to all ranks, but more especially to the farmer, the miner, the engineer, the landed proprietor, &c. and in a very impressive passage pointed out its bearing upon the great subject of Natural Theology.

lified (Mr W. Macgillivray, Curator of the Museum of the Royal College of Surgeons), is maturing his arrangements for imparting elementary instruction in several departments of Natural History, viz. Geology, Botany, and Zoology, and there can be little doubt of these being speedily followed by Natural Philosophy and other sciences.

Mechanics' Institutions have already done much for instructing the people in the sciences and the arts, but some departments, especially those which relate to the study of Nature, have been certainly too much overlooked. Natural History is the mine out of which the materials of all other knowledge must be originally dug, as well as the most solid basis on which the composite structure can be successfully reared. Let these institutions, then, be not too exclusive in their character,—let their directors reflect on the diversity of wants which they have to supply,—let their halls, as at London, be open throughout the country to every philanthropic individual willing to impart instruction to the people,—and let all ranks recollect, that on the wide diffusion of general knowledge among the great mass of the people, depend the existence and prosperity of Britain.

ARTICLE V.

SECOND ADDRESS OF THE COMMITTEE OF THE ROYAL LEWES SCHOOL OF INDUSTRY, 1832.

IN Vol. VII. p. 117, of this Journal, we noticed the institution of this school. We have great pleasure in presenting to our readers the Second Address of the Committee of Management to its Friends and Benefactors. It is impossible to read it without interest; and we hope that the institution may be copied in other parts of the country. The expense appears to be moderate, and the regulations judicious.

“A Course of Instruction has been furnished during the past year, (since February 1831,) at the ROYAL LEWES SCHOOL OF INDUSTRY, to about 90 Boys and Girls, who are above six years old.

“It will be a ground of ample satisfaction to the friends of the institution, to know that these children have advanced in useful acquirements, in a degree proportioned to the *means* which have been placed at the disposal of the Committee,—means intended to combine works of the head and hand, while the germs of sound morality have been implanted or strengthened, with a blessing to the children, and to society at large.

“Foremost of the means to produce the habit of industry

and the moral improvement of the boys, was the use of an acre of arable ground, which is situated on the verge of Kingston parish, where it joins Southover to the west. Possession was not had till the 6th April, and this may account for any deficiency in the value of the crop. In fact the Committee would not have ventured to avail themselves of this powerful instrument in education, if they had not been encouraged by the spontaneous liberality of a friend to whom their doubts were made known. Lady Noel Byron sent them a sum which seemed adequate to the purchase of tools, and to rent an acre of ground, near Lewes, for two years. It will appear from the statements which follow, that the sum obtained for the crop this year barely amounts to the rent (L.10) for which an acre could be obtained within a convenient distance of the school.

“ Making due allowance for the previous inexperience of the boys, and their teacher, in gardening, it was highly gratifying to witness the thriving results of their great diligence and care. It was still more gratifying to observe the alacrity and perseverance of most of the boys, and even of the youngest, in several instances. Twelve of the senior boys have been distinguished by permission to cultivate each a portion of garden ground, which they gather the produce of, and carry home to consume. The tools employed were spades, hoes and rakes of suitable sizes, a large spade, a Canterbury hoe, a shovel, tin watering-pots, as well as a twelve gallon cask, mounted on the frame of a wheelbarrow; which has been employed (in dry weather) to carry about water taken from a rivulet at the southern extremity of the ground.

“ The chief produce of the acre was in peas, cucumbers, carrots, potatoes, cabbage, broccoli, radishes, turnips, beans, onions and celery; yielding in money the sum of L.9:1:9, and leaving stock on hand and in the ground at Christmas. The garden was cultivated by districts,—as many districts as there were boys capable of gardening; then each such boy was allowed to chuse from the others a fellow-labourer, two to chuse a third, and three a fourth, till a district was found for every boy and a group of boys, with a leader, for every district. The advantages of this arrangement became obvious, from the moment it was adopted by Mr Till, as chief gardener; and the Committee take this opportunity of recording that Mr Till has shewn in this, as in every other department of the school, great readiness to receive and apply the advice which, in many cases, has been obtained from friends or subscribers to the institution.

“ Besides gardening, the branches of industry in which the boys have acquired some skill are—the making of so-called Bavins out of faggots for firewood, the manufacture of list shoes

soled with leather, and the method of cleaning shoes and knives.

“ In the alternation of study and labour, the boys have enjoyed greater opportunities, perhaps, than the girls, for observing and learning to know common objects. They have had some instruction from Mr Till, in lessons on objects, which may be regarded as a continuation of those which he used to give, in former years, at the Infant School, near the Castle. In their hours of study, the object has been, to enable the boys first to read with marked precision, and then to read with facility. A numerical frame with balls has been employed in the first lessons of arithmetic, previously to working out the four rules with the use of figures, and the two methods were frequently combined.

“ On the girls' side of the establishment, Mrs Till has been no less indefatigable in teaching the various processes of plain needle-work, and latterly of straw-plaiting; she has also given attention on one afternoon in the week, to the more stirring business of sweeping, scouring, and cleaning the house, and sometimes washing, with the elder girls. When Mrs Till has been so engaged, some member of the committee has presided generally over the younger children at needle-work or reading.

“ Girls as well as boys have been taught writing by Mr Till, and their improvement in this art will be seen (by comparing specimens of different dates) to be sufficient for the length of time each child has bestowed in writing copies.

“ While the Regulation No. 6, which appoints the daily reading of a portion of the Scriptures by the children, has been strictly followed, the means of instruction have been increased by the use of ‘ Early Lessons,’ and of the story, by Mrs Marcet, of ‘ Building a House;’ two works adapted for teaching common things in a way suited to the capacities of children.

“ In order to ascertain the reality and extent of the progress made by the girls' school in reading, and understanding what they learn to read, and in their ciphering, examinations were appointed to be held monthly by a part of the committee. The examiners report that enough of the girls' time is given to study, aided by the methods employed of teaching in class, to lay the foundation of as much learning as may fall in with the parents' ulterior views for their children; consistently with that variety of useful occupation which it was the design of the school to provide.

“ In closing this address, the Committee feel warranted in asserting, that if this School of Industry find a continuance of the same support it now enjoys, it will be susceptible of continual improvement. They are most anxious to obtain better ac-

commodation for the girls' school, which they know by personal attendance to be, in its present dimensions, unsuited to a better arrangement of the classes; and they are of opinion that it may be improved for a less expense than was incurred last year in fitting up other parts of the establishment."

EAST PORT LANE, 16th Jan. 1832.

ARTICLE VI.

THEORY OF ANIMAL RESEMBLANCES; or a Philosophical Essay on the Means of Determining the Dispositions, Physical and Moral, of Animals, by Analogies in their Forms, Coverings, and Colours. By the Chevalier DA GAMA MACHADO. Paris, Treuttel and Wurtz. 1831.

THIS elegant quarto, which we have received from its author, is, we understand, published at his own expense. He is a man of fortune, whose fancy it is to live surrounded by a menagerie of animals of his own collecting, whose characters, manners, and habits it forms his delight to study and describe. He has been led to observe similarities in the dispositions, manners, and habits of different species of animals, and, being at the same time struck with a corresponding resemblance in external features, such as their forms, their furs and plumages (*robes*), and their colours, he has ventured the theory that this coincidence is a law of Nature, and may be looked for invariably,—the same causes producing the same effects; but the author does not confine the theory to animate beings, but asserts that the law runs through all organized nature, and that there is an analogous resemblance of vegetables to animals, and of vegetables to each other, in one or more particulars of character, whenever there is a resemblance in their external features. He even conjectures that the law may extend to the mineral kingdom, and instances the observation of Baron Humboldt, that the sand of the bed in which the diamonds of Russia are found, is precisely of the same kind and appearance as that with which the diamonds of Brazil are surrounded. The author, manifesting that kindness of feeling which is so often found in the friends of the inferior animals, offers as one among other recommendations of the study of animal character, that it may serve to remove prejudices too common against particular animals, which often render us unjust and even cruel to them.

Reaumur and Buffon studied the manners and character of a great number of animals, but did not think of observing the relation between their physical and moral qualities, so to speak.

Gall was subsequently more fortunate, the author observes; that, in giving to the study of man a more durable and solid foundation, "he has elevated that study to the rank of positive science, and his philosophy is now recognised as alone capable of conducting to truth, and of displacing the vague abstractions of a *metaphysique*, whose reveries have so long misled the human mind, and which have produced the theogonies of ancient and the conflicting theologies of modern times,—which have led to so much religious fanaticism and bloodshed." Surrounded by his animals, the author claims kindred with all who befriend them; and he mentions a recent memoir by M. Dureau Delamalle, member of the Institute, in which he enters philosophically into a subject which we must acknowledge to be new and not less important, the relation of man to the inferior animals, which last he holds not to be the mere machines which man in his pride is apt to take them for. After alluding to the speculations of Porta and Lavater, who considered man in the relation of his external to his moral character, and to whom he thinks Dr Gall has scarcely done justice, he gives a rapid sketch of the organs which Dr Gall has established as belonging to men and animals,—makes honourable mention of the labours of Dr Gall's colleague Dr Spurzheim, and enumerates the places all over the world where societies are formed for the promotion of the science, from the first at Edinburgh to the latest at Paris.

The work contains 20 coloured engravings. The first is devoted to the ape called the Saimiri or orange-coloured Sapajou, a special favourite of the author's from its beauty, vivacity of eye, and alertness of movements. While this interesting animal was, with many others, at breakfast with the Chevalier, it excited some surprise in its host by barking like a dog. The author was led by this to compare it with a particular species of dog, which he calls the *Chien Carlin*, and also with the barking-owl, the *Chouette-hulot*. In the dog he found the colour and black muzzle to be the same as in the monkey, and in the owl the eye and the colour of the plumage. In a second plate, representing the head of the same ape, the large development of the love of offspring is shewn; and the author states, that even among monkeys, from whose care of their young Dr Gall discovered the organ, the saimiri is distinguished for affectionate solicitude for its offspring.

The race-horse and greyhound are next compared in the depth of the thorax and slenderness of [the abdomen, which so well suit them for speed. In the draught-horse and the draught-ox there is a pointed resemblance in the whole muscular frame which their labours require.

The author successively compares, in his beautifully coloured engravings, the lion with the Angora cat—the hyena with the

wolf-dog—the mouse with the wren,—many birds with each other, and birds with butterflies,—this last forming a very striking resemblance in colour and variegation,—and invariably some coincident agreement in character or habits is pointed out.

One of the engravings, the eleventh, is particularly striking. It presents the barking owl (*Chouette hulot*), and the enormous Brazilian butterfly, called the *Agrippinna*, together. This insect, measuring sometimes 11 inches from tip to tip of its expanded wings, and 3 in the length of its body, presents in the most striking manner the colours of the owl, in ground, shades, spots, and variegations. Of the resemblance of these two animals in their habits, we give the following account, translated from the work, as a specimen :—“ These two-winged creatures, although very different from each other, in certain respects, have alike an aversion to the light ; they are clothed in sombre colours, like all animals that live in the shade ; and manifest more or less of the inclinations of the cat, which, like them, sleeps during the day, and begins to hunt when the sun sets, and when the other animals retire to rest. There is a perfect agreement in their manners, and with those of other nocturnal animals. The owl and the agrippinna feed upon insects, and shew the same arts in seizing their prey. Behold then, again, the identity of manners and inclinations coincident with an unequivocal resemblance, and we shall learn that it is not necessary to confine ourselves to the classifications established by the scalpel. We may address ourselves, besides, to the external forms and the coverings, and the more so, that often individuals of very different tribes discover the same habits, while members of the same family present manners the most opposite. The small ape, called the *Ouistiti*, which is of a very pretty figure, and which belongs to the family of the monkeys, has precisely the tastes of the cat ; it shews in its physiognomy much of the same sort of cunning, and has even some resemblance to the owl and the butterfly, in the plate now under consideration. When I had an ouistiti in my menagerie, I had nearly lost one of my little red fish by the rapidity with which the little ape sprung to the jar that contained it. I had much difficulty in restraining it, and ever since I have given it smelts (*eperlans*, Scotticè *spirings*), of which it has shewn itself very fond. We see in this as in other instances, animals of different families, offering an exterior partly like and partly different, and whose covering and character meet each other with an identity which confirms my principles ; and that, above all, where there is resemblance in form, covering, and colour, we may rely upon conformity of character.”

The last plate but one presents two heads of dogs, the one docile and gentle, and the other indocile and fierce. In the first, the rise and roundness of the forehead from the top of the

nose, and the flatness in the same region in the other, is a satisfactory confirmation of an observation often made in comparative phrenology. All the plates are coloured with great and expressive beauty. In some of the figures, we would say, if within our province, that the drawing is a little stiff and artificial.

We would give every encouragement to the Chevalier Machado to prosecute his observations. The line is new, and we do not quarrel with him for his attachment to his theory, and for what appears to us an occasional overshot, not only in his estimate of the value and relevancy of particular proofs, but of the importance of his views to natural history. Without zeal there is no perseverance; and the real value of the author's labours will appear as his induction advances, not when it is only begun. While he has ventured some rather slight and distant resemblances of physiognomy and character, he has brought forward many others which are very striking and interesting.

It is a substantial benefit to science to add a new element in the investigation of any truth—a new agent, to speak chemically, in any important analysis. In zoology, if not in botany, anatomical form and structure have been almost exclusively trusted to as the rule of classification. Several naturalists have directed their attention to furs and feathers, and even to colour, as indicating distinctions among the tribes of animals. Our author's originality consists in connecting these physiognomies with manners and habits, and the field is as interesting as it is important. Neither Buffon nor Reaumur applied their study of the characters of animals as a scientific instrument to facilitate ulterior investigations.

Nothing has pleased us more than the benevolence which breathes through the whole work. It is delightful to trace scientific labours to an originating impulse of moral feeling; and we shall certainly not be in Paris without making interest to *assist* at one of the author's *dejeunés*, and see him in his glory in the midst of his large family.

ARTICLE VII.

JOURNAL DE LA SOCIÉTÉ PHRÉNOLOGIQUE DE PARIS,
No. 1. pp. 131. 8vo. Baillière Paris & London, & MacLachlan & Stewart & Thomas Clark, Edin. 1832.

WE have been much gratified by the talent, knowledge, and calm philosophical wisdom displayed in this Journal. It will

carry Phrenology into every country of Europe, recommended by the highest names in medicine, law, art, and general science, in Paris. "The periodical press," says the prospectus, "is now the eye, and we might almost say the *brain*, of society. It diffuses, with the rapidity of lightning, truths of every description; and, thanks to its complete emancipation, all its discoveries are now rendered popular with an admirable facility. The Phrenological Society would have considered itself deprived of its most powerful means of influence, its most effective lever, if it had omitted to institute a Journal, in which should be carefully recorded every fact calculated to improve and extend the important branch of natural science to which it is devoted. If Dr Gall, the immortal founder of our doctrine, had lived, it would have commenced under his auspices, and been supported by his approbation. But this great luminary was extinguished at the moment when time, the vanquisher of all prejudices and obstacles, promised him the highest triumph. Previously to his death, indeed, his discoveries had successfully resisted every effort of his opponents. With us, they had been forced to sustain two rude attacks, that of the glorious despotism of Napoleon, and of ridicule; but the time is at length arrived, when the system of Dr Gall, clearly understood, and philosophically developed, must operate a revolution in the moral and intellectual world, similar to that which the discoveries of the great Newton have occasioned in the world of physical science."

The Journal contains the laws of the Society, and list of its members, which we published in No. 30 of this work. The honorary members, none of whom appeared in the former list, are the following:—

MM. Vimont, docteur en médecine.

Combe (Georges) à Edimbourg.

Combe (André) à Edimbourg.

Elliotson (Professeur) à Londres.

Sedgwick (John) à Londres.

Ucelli, professeur à Florence.

Wright (Eduard) à Londres.

The "Introduction" to the Journal contains an able exposition of the basis, substance, and applications of Phrenology, and shews familiar acquaintance with metaphysics and physiology, as well as with the history of mental and medical science. "The faculties admitted by the metaphysicians, it is said, are found, on rigid analysis, to be nothing more than modes of action, or general results of the primitive faculties. It is impos-

sible, by means of them, to indicate the differences between one individual and another; all men, who are not idiots, possess them. All physical substances have extension, and weight; and they are all impenetrable; but they are not all gold or copper. Not one of their metaphysical faculties designates an instinct, a desire, or a moral quality. It is impossible to explain, by means of Will and Understanding, the origin and activity of the instinct of sexual love, or that of the love of offspring, the faculty of colouring, or a talent for music. Historians and moralists, in painting the character of a celebrated man, have never described him by the abstract faculties, which, in the system of these philosophers, compose the understanding. When Alexander, Socrates, Homer, Bayard or Sully is cited, are they ever described as having shone by desire, by sensation, by perception, attention, abstraction, liberty, or comparison?"

"The physiologists in vain enrolled themselves in opposition to the discoveries of Dr Gall; they changed their language in their courses of lectures, and in the new editions of their works, and in this manner rendered a tacit but forced homage to the truths of Phrenology."

The various objections which have been urged against Phrenology are stated and answered. Courage has been placed in the heart, because, it is said, this organ is larger and stronger in courageous than in timid animals. "Natural history, however, establishes no such fact. The volume of the heart, and the rapidity of its movements, so variable in different individuals, are not in relation to their courage. The greatest captain of modern ages, Napoleon, who never knew the sentiment of fear, had a little heart, and his pulse gave only from 42 to 48 beats in the minute."

The application of Phrenology to education, and the treatment of insanity, are discussed; and respectful mention is made of the important discoveries, and invaluable labours, of Dr Spurzheim in the science. Of Dr Gall, it is said, that "on the brink of the tomb, numerous and powerful testimonies of respect and admiration reached him. Illustrious and generous voices proclaimed his merits, when death was about to encompass all of him that was mortal. His labours will not remain unappreciated by posterity. Severe without injustice, and equitable without flattery, it will say, in the words of Hufeland, that "Dr Gall was one of the most remarkable phenomena of the 18th century." It will acknowledge that his doctrine is the finest monument erected in the field of observation by the genius of man. Philosophy, medicine, education, penal legislation, and political institutions, every branch of practical knowledge relating to human interests, is destined to advance under its illumi-

nation." This introductory discourse does great honour to its author Dr Foissac.

There is an interesting account of the transactions of the Parisian Society during the first year, read to the annual meeting of the society, held on 22d August 1831. Among other cases recorded, is that of an engraver, forty-two years of age, who, after sustaining a loss of 600 francs, complained of a determination of blood to his head. He afterwards became insane, and his hallucination consisted in the belief that he was a great general, and afterwards minister of war. He wrote letters to the military officers in Paris, ordering them to prepare for a grand review, at which he meant to command. He subsequently died, and, on dissection, the organ of Self-Esteem was found large, and sensibly altered in structure.

" Physiology is calculated to render the most important services to civilization; but to produce this effect, it must not be misrepresented, ridiculed, proscribed, as it has been till these later times. You all recollect the aversion of the despot in the days of our military glory to the doctrine of Gall*; the sarcasms with which he caused it to be overwhelmed, the ridicule with which he laboured to cover it. If he could not completely accomplish his object, he succeeded at least in retarding its progress; in inspiring repugnance against it; and this fatal influence, which penetrated into the bosoms even of philosophical institutions, lost its force only under the reigns of the restored sovereigns. Phrenology, recognising no truth as dangerous, consenting to caress no prejudice which she destroys, and respecting no error which she condemns, ought to be as insupportable to a government hypocritically liberal as to a power openly despotic. But we feel it to be a pleasure, as well as a duty, to proclaim that at length we are completely free: We assemble under the protection of authority. In short, it does not accord with the spirit of a government truly national, to lean for support on mystery, prejudice, and fraud; sustained by publicity, honesty, and freedom, it is infinitely more secure. The time is now gone by when men could acknowledge the services which Phrenology is calculated to render to the race, and at the same moment reject them, under pretext that there are some truths which it is dangerous to diffuse."

A Course of Lectures on Phrenology will be opened under the auspices of the society as soon as the preliminary arrangements are completed.

* Napoleon always regarded the system of Dr Gall with contempt. "Although Gall, merely from seeing the bust of Napoleon placed alongside of those of the generals of the Austrian armies, had predicted the immortal victories of Italy, yet he never received from the Emperor the smallest mark of attention."

We are greatly pleased with the spirit which pervades this article. It is written by Dr Broussais, Secretary-General to the Society ; it is eloquent, fervid, and philosophical ; full of indignation against the Jesuitism which so long laid its leaden sceptre on science as well as on public liberty, and of delight at the restoration of freedom. " Gentlemen," says Dr Broussais, " it is Jesuitism which I have described. It appeared strong and powerful. In a moment, a gleam of lightning flashed ; the thunder burst, and an odious power was broken. Liberty sprung up from its ruins ; thought is at length free ; the human mind is about to put forth its might, and to yield itself to the dictates of its inspirations."

Dr Fosati has contributed an able and historical notice of the life of Dr Gall, illustrated by an excellent lithographic portrait ; and the number concludes by a well written essay on the question " What mode of education ought to be adopted for children who depart from the ordinary standard, and who, by their peculiarities, natural or acquired, form the nursery from which proceed the insane, men of great genius, enormous criminals, and ordinary infringers of the laws." It proceeds from the pen of Dr Felix Voisin.

We regret that our limits prevent us from going farther into the details of this journal. We received it only after our fifth sheet was in the press. We shall endeavour to make our readers acquainted hereafter with the most interesting articles which shall appear in the future numbers. We recommend to those who take an interest in the science to subscribe for the work itself : The price in Paris is three francs, or 2s. 6d. Sterling for each number ; and the work may be obtained in this country for a very small advance.

The appearance of this journal will exert a vast influence on opinion in Britain. We feel that every day we are gaining on the favour of the rational and moral portion of our countrymen ; but the weight of authority still continues to interpose great obstructions to the diffusion of our science. The men who lead public opinion are as ignorant of the merits of Phrenology at this day, as they were in 1815, when the Edinburgh Review uttered its grand shout of derision against it ; and they will continue ignorant, because they consider it a degradation to study it. The public press also in Britain is, to a great extent, in the hands of individuals who have hitherto held Phrenology in so great contempt that they have thought it unnecessary to devote to it any serious attention. This also is the result of sheer prejudice. Let the Parisian Journal, however, proceed for a few years as it has begun, and it will become as disgraceful in every quarter of France and England to be ignorant of the principles of Phrenology, as it has hitherto been

to be acquainted with them; and, from the day on which this ignorance shall be dispelled, the triumph of the best interests of mankind will be secured. Journalists who despise Phrenology have no conception of the extent to which ignorance of its principles renders them impotent for the consistent support and advancement of every moral and intellectual interest. They beat the air in their didactic essays; and refute in one publication, without knowing it, the principles which they had laboured to establish in another. A literary friend who only lately has prosecuted the study of Phrenology, described the effect on his mental condition in these words: "It has given me, as it were, a new sense; I see order, and beauty, and adaptation in the world, where previously I perceived only chaos and inconsistency." The illusion that the discovery of the organs of the mind is one of trivial importance, not calculated to exercise any striking influence on human affairs, cannot endure many years longer. The notion is too palpably absurd, and the science of mind possesses in itself too many and too interesting attractions, to allow us to doubt of the speedy destruction of this prejudice, and then Phrenology will be known in its might.

ARTICLE VIII.

LEBENSGESCHICHTE DER GIFT-MÖRDERIN GESCHE MARGARETHE GOTTFRIED, &c. Bremen 1831.

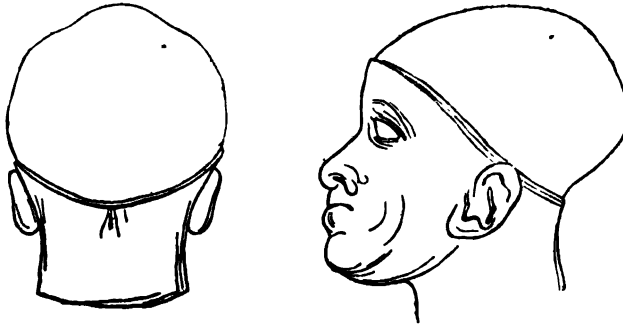
THE LIFE OF GESCHE MARGARETHE GOTTFRIED, Murderer by Poison. Compiled by Dr F. L. VOGEL, her Counsel, from her own Confessions and from Judicial Documents. Bremen, 1831.

GESCHE MARGARETHE GOTTFRIED, living in Bremen, was, in March 1828, accused of having caused the death of a number of persons by poison. Before this accusation, she had lived in apparently easy circumstances in the middle ranks of life; her house was elegantly furnished, and her dress and demeanour that of a lady; her reputation was untainted; and the frequent deaths which occurred in her house were ascribed to heavy and unaccountable visitations of God.

The development of her head, a cast of which was presented to the Phrenological Society by Dr Hirschfeld of Bremen, is as follows:—

Amativeness, large.
 Philoprogenitiveness, very large.
 Concentrativeness, large.
 Adhesiveness, rather large.
 Combativeness, full.
 Destructiveness, enormously large.
 Constructiveness, moderate.
 Acquisitiveness, large.
 Secretiveness, very large.
 Self-esteem, large.
 Love of Approbation, large.
 Cautiousness, rather large.
 Benevolence, small.
 Veneration, large.
 Hope, large.
 Ideality, moderate.
 Wonder, full.
 Conscientiousness, full.

Firmness, very large.
 Individuality, }
 Eventuality, } full.
 Form, }
 Size, }
 Weight, }
 Colouring, moderate
 Locality, full.
 Order, ditto.
 Time, }
 Number, } moderate.
 Tune, }
 Language, }
 Comparison, rather full.
 Causality, moderate.
 Wit, rather small.
 Imitation, rather small.



GESCHE MARGARETHE GOTTFRIED.

The head above the band, extending from the eyebrows to the top of the ear in the profile, and running between the two ears in the back view, was denuded of the integuments before the cast was taken, so that the figures represent the bare skull. The back view is a section through Destructiveness, Secretiveness, and the point at which Veneration and Firmness join. The position of the ears is lower than during life, from the integuments in the upper part of the head having been cut off. This also has increased the projection of the chin. The engraver has made the depression corresponding to Conscientiousness too great. The head is considerably more rounded at that part than is here represented. The figure, being cut in wood, could not be rectified. In all other respects it is correct.

The skull measures from Destructiveness to Destructiveness exactly six inches, and from Secretiveness to Secretiveness the breadth is the same, both without the integuments; which is a full measurement for the male head, with the integuments. The distance from Individuality (over the muscles) to Philoprogenitiveness is $7\frac{3}{4}$ inches. Destructiveness, Secretiveness, and

Firmness, are the most prominent organs; and, by taking a cursory view of this woman's life, we shall see how strong their influence over her was.

Her father was a tailor in Bremen; active and industrious, but stingy, selfish, and inclined to superstition. His religion was of a kind that influenced him as long as its practice did not interfere with his own interests; and he attended church only when he had no work to do at home.

Gesche Margarethe, and her twin brother, were born in March 1783. These were the only children of their father, and, when about four years old, were both sent to school, where they remained till they were nearly twelve. The commencement of Gesche's career in sin may be dated from her seventh year, and was partly owing to the avarice of her parents. Being allowed no pocket-money, she was unable to appear on an equal footing with her school companions, and she began to steal from her mother small sums at first, but afterwards to a larger amount. This did not remain long concealed from her mother, who, however, ascribed it to the son, who was of a silent bashful disposition, rather than to the daughter, whose manners were frank; and although the mother had afterwards occasion to suspect her daughter, still she could not be certain, so artfully were the crimes concealed. Her father was accustomed to sing a hymn every morning before commencing work, and it frequently happened that his daughter was moved to tears by it. She was, however, of a very contradictory spirit, and her mother had frequent occasion to complain of her conduct. As she became older, she was sent to learn dancing, an accomplishment in which she greatly delighted. She also attended a French class, where another instance occurred of her Secretiveness and Love of Approbation: to appear the first of her class, she employed a young man, one of her acquaintances, to write her lessons for her, which she then copied and passed for her own.

Thus her life passed on with little variety till she was twenty years of age, although, when sixteen, she had already received three offers of marriage, which she, or rather her father, declined. She was beautiful, and almost everywhere beloved and well received.

When about twenty, she received an offer of marriage from a saddler of the name of Miltenberg, which she was induced to accept. This marriage proved far from happy. Miltenberg had formerly been married to a woman who rendered his house a scene of misery and discord, and to avoid her society he always took refuge in the taverns, and so acquired a propensity to liquor which he could never overcome. He was induced to marry again chiefly by his father, for he had been so thoroughly disgusted with marriage by his former experience, that he had

little desire to enter into another contract, and frequent quarrels took place between him and his father on the subject. Gesche evinced no great love towards him, but the riches of the suitor had a powerful influence over the mind of her father, who prevailed on her to accept of the offer.

Miltenberg, however, loved his wife, and the more he had been ashamed of his former wife the more he seemed to doat upon this one; but he still frequented the taverns, and she was often left without his society or guidance.

They had been four months married when Gesche met Gottfried, her future husband, at a ball; and from that day all her wishes were directed towards him. She now began to colour her cheeks with rouge; hours were spent before her glass, and from her toilet she hurried to her kitchen window, and remained there to see him pass to his counting-room; but Gottfried took no notice of her.

It was about this period, namely in September 1807, that her first child was born. About the same time Miltenberg became acquainted with one Kassou, who used very frequently to visit him, and who soon conceived a liking for his wife, which Gesche did not leave unreturned. Their intimacy always continued to increase, and presents passed between them. Gesche was desirous to present to Kassou a breastpin enclosing a lock of her hair, but did not well know how to express a note which she wished to send along with it. She, therefore, applied to Miltenberg, telling him that she wished to make a present to one of her female friends, and requesting him to write a note to be sent along it, which he accordingly did. This she copied and sent to Kassou along with the pin.

In 1808 she had a still-born child, and after her confinement began, on account of her thin appearance, to wear not fewer than thirteen pairs of stays, to improve her form. This was not discovered till her arrestment. She now began to be tired of Miltenberg; calumniating him to her parents, and directing her passions sometimes to Gottfried and sometimes towards Kassou. She was obliged to sell several articles of household furniture to pay some of her secret debts, telling her husband she wanted the money to send to her brother, who was then a soldier in the army of Napoleon, and representing to her mother that her husband had sold them.

In 1810 she had another child, and had no sooner recovered from her confinement, than, being short of money, she resolved to open her husband's desk. To accomplish this she pretended to have lost one of her own keys, and sent for a smith to get the desk opened; she observed narrowly how he proceeded, and after he was gone went and opened it and abstracted ten dollars. Not content with this, she proceeded afterwards to

open the desk of a gentleman who lodged in her house, and took away ninety dollars. She remained, however, unsuspected, and a favourite with all her acquaintances; and was for some time cured of stealing by a fright which she got by a very narrow search being made on the desks being broken open.

Her passion for Gottfried increased more and more, and the habits and sickness of her husband gave them many opportunities of meeting. Her husband was intimate with Gottfried, and used to have him very often at his house. But her passion was not confined to Gottfried, it extended also to Kassou; and the necessity of keeping her love for the one concealed from the other brought her into many petty scrapes. Her fourth child was born in 1818.

Miltenberg was still in her way. She had never loved him, and now that he crossed her path, she began to wish him dead, that she might give free vent to her passion for Gottfried. Miltenberg's father had lately died, and she had observed nothing particularly fearful in death, so that by degrees she accustomed herself to the thought of Miltenberg dying. As he was always in bad health, she began to think that, as his life was only an incumbrance to himself, and an impediment to her, it would be no great sin to help him out of the world. In this state of mind she went to a fortune-teller, who prophesied that her whole family would die before her. She knew that her mother had some arsenic which she kept for poisoning mice. She accordingly went to her, and saying that she was troubled with mice in her house, asked if she knew of any means of destroying them, pretending that she knew nothing of poison. Her mother put some arsenic on bread, and placed it in the room said to be infested with the mice, warning her daughter at the same time to keep the apartment locked for fear of mischief to the children. A day or two after this, Gesche went into the room and took away the poison, which she scratched from the bread as if the mice had taken it, with the intention of giving it to Miltenberg. Some time afterwards her mother said that she would go and see if the mice had taken the poison. "Oh yes!" exclaimed the daughter, "pray bring me some more;" which her mother did.

She was now in possession of the means of death, but could not for several weeks bring herself to the resolution of administering it to her husband.

At last she gave him some, one morning, to breakfast, and afterwards another dose in some water-gruel. She could not, however, approach the bed of the sick man; it appeared to her as if he knew that she was his murderer; but this was far from being the case, as he recommended her to Gottfried before he

died. The corpse was dreadfully swollen, but no suspicion was excited.

After Miltenberg's death, she received an offer of marriage; but her thoughts being directed to Gottfried, she refused it. Her parents suspecting this to be the cause of her refusal, told her that her marriage with Gottfried should never take place with their consent. Gottfried loved her, but did not wish to marry a person with children. She now again consulted a fortune-teller, and received the same answer. Thus, although she had got quit of her husband, there still remained serious obstacles to her union with Gottfried; first her father and mother, and then her children. She hoped also to get possession, by the death of her children, of a legacy of about 650 dollars left them by old Miltenberg.

In April 1815, her mother was rather unwell, and came to live in her house, when she (Gesche) happening to light upon the packet of arsenic, part of which she had saved and locked up, it immediately occurred to her to poison her mother. As her mother seemed likely to recover, she gave her the poison in her favourite beverage of lemonade; and while mixing it, she burst into loud laughter, so that she shuddered at herself; but it instantly occurred to her, that God made her laugh as a sign that her mother would soon be laughing in heaven. A witness afterwards said that she appeared happy at her mother's death.

Death now followed death with fearful rapidity. The very first day after her mother's burial, Gesche was sitting in a room with her second youngest child on her knee; the thought of poisoning it occurred to her, and without hesitating a moment, she administered to the child some arsenic on a piece of the cake which had been presented at the burial of its grandmother. This was on the 10th of May, and on the 18th, without the least remorse, she poisoned her eldest child. In the agony of death, it clasped its arms round the mother's neck, but Gesche remained unmoved. Two weeks afterwards, she poisoned her father. About ten weeks after these events, while her son was sitting on her knee, he asked her why God took away all her children? This pierced her to the heart, and she immediately resolved that he also should die.

Thus in the short interval between May and September, she murdered both her parents and her children. But the death of so many in so short a space of time, naturally excited some suspicion, and to silence this, she was advised by her friends to have the body of the child opened. This she readily consented to, and the child was declared to have died of inflammation of the bowels.

In this manner, as she thought, was every obstacle to her marriage with Gottfried removed, but Gottfried himself did not

show any particular desire to marry her, although he liked her company ; and so the winter of 1815-16 passed free from murder. It was on a Saturday in May 1816, that her brother returned home a cripple and in rags, having lost the use of his feet in the Russian campaign. Here, then, might be another obstacle to her marriage ; at all events, he must share her father's property with her. This was motive enough for his death. As already mentioned, he arrived on Saturday, or, as some say, on Friday, after a long absence ; he was poisoned on Sunday, and, to avoid suspicion, she passed a great part of the time at his bedside. On every occasion, she had the precaution to employ a different physician. Seldom or never did any of them attend two of her patients.

Another obstacle, however, arose ; Gottfried would not marry her. But this also she overcame, by the interest of some of his friends. His original refusal had hurt her, and she began to dislike him, and came to the resolution of poisoning him also. But she thought him rich, and therefore determined at all events first to marry him, in order to be made his heir, and then to execute her purpose. One Monday morning, she and Gottfried had resolved to make a pleasure party to a little distance out of town ; and she seized this opportunity of poisoning him, that his sickness might appear the more unexpected. While he was on his deathbed, she sent for a priest to marry them, so that she might make sure of the property. Thus had she poisoned father, mother, brother, and children, in order to be put in possession of Gottfried, and at length we find him also in the list of her victims.

She seemed now to delight in murder, and the slightest cause was sufficient to decide upon the life or death of any of her relations. She was disappointed, however, as to Gottfried's riches, for, instead of wealth, he left her debt, and it required all her secretiveness to conceal her disappointment.

Now that she was alone, she occasionally felt severely the loss of her children ; often when she thought of them, she shut herself up in her garret, and wept bitterly. She carefully avoided schools, and every place where children were to be met ; and seemed to be particularly conscientious in paying off the debts of Gottfried. She loved money, not so much for its own sake, as because it afforded her the means of making a figure among her acquaintances, and so of gratifying her vanity.

Yet, in spite of all these murders, she was not unhappy, she became acquainted with H—— (the name is not given), and in his company forgot all her sins, and, in her own words, believed herself the happiest in the world. She rejoiced in her reputation, especially as, after the death of Gottfried, she again immediately received an offer of marriage, which she refused. She had one child by Gottfried, begotten before marriage. We find

at this period another instance of her hypocrisy ; some one requested from her the loan of sermons, which she delivered, with the request that great care of them should be taken, as they were the only means by which she was able to sustain so many judgments. She never read any of them. Whenever she attempted to read the Bible, she thought the perusal of it of no use, and immediately closed the book.

She was now often ill supplied with money, but always found means of borrowing ; often obtaining it from one in order to pay another. After the death of Gottfried, she seems to have rested for some years from her murders, and during that time to have had little to occupy her mind except the care of preserving her reputation untainted. In 1822 she went to Stade to spend a few weeks with some friends. Here, before she was aware, her money failed her ; she was too proud to own it, and could get none from home ; she knew no person from whom she might borrow, and had recourse to falsehood. She broke the key of her drawer in the lock, threw it away, and then raised an alarm that somebody had stolen her money out of the drawer. The drawer was forced open, and no money appeared, and nothing could be more obvious than that she had been robbed. Being obliged to take an oath before a magistrate that this was the case, she did not scruple to commit perjury ; after which she got a supply of money from her friends.

From time to time she received offers of marriage, all of which she turned to good account, by extorting money from her admirers. She was reputed rich, and in this belief her admirers readily yielded to her requests.

One of them, named Zimmermann, was thus induced to advance her very considerable sums, which she repaid with a great shew of tenderness. She was betrothed to him, but he too was doomed to swell the list of her victims ; after extracting all the booty in her power, she poisoned him by degrees, that she might have an opportunity of shewing her tenderness to him during his sickness, and thus lull suspicion. By his death she was free of the money due to him, which he had advanced on her word alone, without taking a legal obligation.

She now began to poison her acquaintances, without any visible motive :—a child came to congratulate her on her birth-day, and received a dose on a piece of biscuit : a friend called one forenoon, and also received a dose ; and she tried the strength of her poison on another of her friends, on whose face it caused blotches to appear.

She gave a dose to one of her lodgers, that, during his sickness, she might plunder his pantry. Zimmermann had a cousin named Kleine, in Hanover, from whom she succeeded in borrowing 800 dollars, but he became impatient for repayment, and

she had only 300 to give him. In this predicament she set out for Hanover, with the intention of poisoning Kleine, thinking by his death to gain delay. She accomplished her end, and after his death affirmed that she had given him a double Louis d'or the day before he died; but the whole story was a falsehood. She committed also several other murders for purely selfish ends, but the soul sickens in reporting them.

She was now often in want of money, and therefore could not keep up a large establishment, so that she was obliged to sell her house to a person named Rumpff, at the same time reserving a room or two for herself. Rumpff was fond of her, and used to call her aunt, but he had not been more than eight weeks in the house when his wife died, and he himself fell into bad health. He could do nothing but run about searching the whole house, from the garret to the cellar, for the cause of his trouble.

It chanced that he kept a pig; and wishing to have it killed, he sent for a butcher for that purpose. The butcher, with the view of pleasing him, brought to his room a choice bit of the pork, of which Rumpff partook, putting the remainder into his pantry. On the morrow he went to cut a slice from it, but he was surprised to find it in a different position from that in which he had left it the day before, and he perceived also that it was covered with a white powder. This excited his suspicions; he had the substance examined, and detected poison. Gesche's motive for this crime was to endeavour to regain possession of her house. She was arrested on suspicion.

The work before us, from which these particulars have been derived, gives no account of the trial or execution, which, as we are informed, is reserved for a separate publication; but it mentions that, in prison, she was tormented by dreams, in which she saw her victims sitting in the churchyard beckoning to her; and she was often so much afraid, that, immediately on awakening, she could not remain longer in bed.

The following judgment was pronounced by the High Court of Bremen, on 17th September 1830:—

“The Court of Justice, in terms of the law, and after the inquiries have been conducted according to the decree of the 22d May last, find the widow of Michael Christopher Gottfried, Gesche Margarethe, formerly Timm, accused of poisoning, and of several other offences, to be guilty of the following crimes, as proven, besides several robberies, frauds, and perjuries, and attempted abortion of her offspring, viz.

“1. To have poisoned both her parents, her three children, her first and second husbands, her suitor Paul Thomas Zimmermann, Anne Lucie Meyerholtz, Johann Mosees, the wife of Johann Rumpff otherwise Mentz, the wife of Frederic Schmidt otherwise Cornelius, and Frederic Kleine of Hanover; and also

to have caused the death of Eliza, the daughter of the said Schmidt, by poison, although this is not proven to have been intentional.

" 2. Several times to have given poison to the said Johann Rumpff, with the intention of killing him, and thereby causing to him a severe illness.

" 3. To have given poison to several other individuals, without any proven intention, but which was more or less injurious to their health.

" The Court of Justice, therefore, according to the penal code, Art. 190, and taking into consideration the milder principles of the present usages of the law, condemn the accused, the widow of Michael Christopher Gottfried, as her well merited punishment, and to serve as a warning to others, to death by the sword, and entrusts to the criminal court the execution and publication of the sentence, and also the adoption of all necessary measures : all the expenses caused by the inquiries, judgment and punishment, to be paid from the funds which she leaves, so far as they shall be sufficient."

Observations on the preceding Narrative.

THE foregoing details are literally translated from the German work named in the title of this article, and are perfectly authentic. The first impression received from them is that of astonishment, almost bewilderment of judgment. We felt it difficult at first to believe in the existence of such a being as G. M. Gottfried. The facts to be accounted for are, how for twenty years she could display so many attractions as to procure her lover after lover ; so much refinement and urbanity as to be received into the society of the middle ranks in Bremen, and treated with respect, and so much affection as to lull all suspicion of her having any hand in the numerous deaths which occurred in her family ; and how, with all this exterior of morality, she could be internally a perfect Blue-Beard in relentless cruelty ; or ten times worse than Blue-Beard, when it is considered that father, mother, brother, husband, children, and lover, all fell victims to her barbarity. Our first impression was, that she must have laboured under a diseased Destructiveness, or monomaniacal thirst for blood ; but she murdered each victim deliberately for a purpose, and this excludes the idea of disease. Besides, during twenty years, the propensity must have shewn itself ungovernable in other parts of her conduct, which it does not appear to have done. The combination of the organs, therefore, must explain the character ; and after the mind is able coolly to survey the development and actions, it does so consistently and clearly. The first fact to be accounted for, is the existence of a very considerable outward morality,

which deceived the world for so long a period, and averted suspicion of crime. Accordingly, we find large Philoprogenitiveness, Secretiveness, Love of Approbation, Veneration, with average Conscientiousness and Intellect. These faculties presented to the world that outward aspect of amiableness which deceived them for so long; but the next fact is the co-existence of these qualities, along with a deliberate savageness of disposition that spared neither age nor sex, when they stood in the way of her selfish enjoyments; and, accordingly, the brain exhibits an enormously large organ of Destructiveness, with a very deficient Benevolence. This combination appears to have rendered its possessor almost a hyena or tiger in her dispositions. Gottfried lamented the death of her children, because her large Philoprogenitiveness suffered under the bereavement of its objects; but she was gay and happy after the murder of her other victims. Her Benevolence was so deficient, and her Destructiveness so large, that she seems to have felt a murder to be as much in harmony with her feelings, as a tiger does the death of a buffalo on which it means to feed. This is a case which we could not have conceived except by the aid of Phrenology. It appears to be an example of what might be called moral insanity, arising from excessive development of one organ, and great deficiency of another; and the observations of Dr Crawford, on the case of E. S., recorded in Vol. VI. p. 147. of this Journal, appear remarkably applicable to it. They are as follows:

"I have a few remarks to make on the second of the lunatics, lettered E. S. You observe in your own notes, 'I am surprised he was not executed before he became insane.' This would lead to the supposition, that he had been afflicted with some form of insanity in addition to a naturally depraved character. Such, however, is by no means the case; he never was different from what he now is; he has never evinced the slightest mental incoherence on any one point, nor any kind of hallucination. It is one of those cases where there is great difficulty in drawing the line between extreme moral depravity and *insanity*, and in deciding at what *point* an individual should cease to be considered as a responsible moral agent, and amenable to the laws. The governors and medical gentlemen of the Asylum have often had doubts whether they were justified in keeping E. S. as a *lunatic*, thinking him a more fit object for a bride-well. He appears, however, so totally callous with regard to every moral principle and feeling—so thoroughly unconscious of ever having done any thing wrong—so completely destitute of all sense of shame or remorse when reproved for his vices or crimes—and has proved himself so utterly incorrigible throughout life, that it is almost certain that any jury before whom he might be brought would satisfy their doubts by returning him

insane, which in such a case is the most humane line to pursue. He was dismissed several times from the Asylum, and sent there the last time for attempting to poison his father, and it seems fit he should be kept there for life as a *moral lunatic*; but there has never been the least symptom of *diseased* action of the brain, which is the general concomitant of what is usually understood as *insanity*. This I consider might with propriety be made the foundation for a division of lunatics into two great classes; those who were *insane* from *original constitution*, and never were otherwise, and those who had been *insane* at some period of life from diseased action of the brain, either permanent or intermittent."

ARTICLE IX.

THE ROYAL SOCIETY OF EDINBURGH AND THE PHRENOLOGICAL JOURNAL.

WITH the view of counteracting in some degree the vague declamations of Sir William Hamilton against Phrenology, Sir George S. Mackenzie, in January 1830, submitted to the Royal Society of Edinburgh the statement of the principles of the science, subsequently published in Vol. VI. p. 332. of this Journal. In order, if possible, to induce that learned body to inquire into the merits of the question, and to look at both sides of it, Sir George presented to it a copy of the Phrenological Journal, so far as then published, expecting that the Society would subsequently order the work as it was published, so as to continue the set. The Society does this with various other Journals; and the expense of our publication is only 10s. per annum. The Society, however, did not order the work to be continued. Sir George, on hearing that this was the case, considered the omission as indicating "so great a degree of what he must call silly hostility to Phrenology, that he wrote to "Thomas Allan, Esq. the treasurer, requesting him to state to "the Council of the Society his desire that the presented copy "should be returned to him, as he saw that he could make a "better use of it." It was returned accordingly. The British Museum is entitled to receive a copy of every work published, free of expense, but the privilege cannot be enforced after the lapse of a year from the date of publication. The librarian had omitted to demand the earlier numbers of our Journal; and, on a recent application for them to our publishers, he was informed that a complete set could not be supplied, even for payment, some of the numbers being out of print. The application was mentioned to Sir George Mackenzie, and he wrote offering the

returned copy to the Museum. The following answer was received :

" SIR,

BRITISH MUSEUM, April 16. 1832.

" In answer to your note of the 12th instant, most kindly offering to present to the library of this institution the first five volumes of the Phrenological Journal, I am directed by the Trustees to state, that they do most fully appreciate your kindness in presenting these volumes to the Library; and the more so, as it is the particular part of the work wanted to complete the copy in the British Museum. I am, &c.

" J. H. GLOVER,
" Assist. Lib. B. M."

" Sir G. S. Mackenzie, Bart.

The copy has been forwarded accordingly.

This incident possesses some local historical importance. Phrenology has been before the public of Europe since 1796, and in Edinburgh it has been assiduously cultivated since 1819; nevertheless, such is the inveteracy of prejudice existing in the minds of the leading men in the Royal Society of Edinburgh against it, that they absolutely shut their intellects against all information concerning its merits, and their eyes against the most palpable indications of its progress. At the close of Sir George Mackenzie's address, Dr Hope, as chairman of the Society, after expatiating on the great importance of the physiology of the brain, and the high probability that different parts of it perform different functions, concluded by assuring the Society, "that the phrenologists of the present day were not in the right path, and had not advanced a single step in this physiological investigation; for, so far as he knew, they had not ascertained the function performed by any one of the parts."—A more unfounded and ungenerous denial of the merits of Dr Gall than this is not on record; and the spirit of injustice which pervades it, is surpassed only by its notorious absurdity. The only salvo in the condemnation lies in the words "*so far as he knew*;" and we give Dr Hope the full benefit of this reservation. We acquit him of intentional malice against Dr Gall, and restrict the charge to that of culpable ignorance of his merits; but one or other of these stigmas he has indissolubly attached to himself. If Phrenology be a dream and a delusion, Dr Hope and the Royal Society of Edinburgh will stand forth in the eyes of posterity as proudly superior to the errors of their age; as men truly great in philosophy and science; as the worthy guardians of the public mind against the intrusions of quackery and error. But if it be a great and valuable discovery, they have written a bitter and biting satire against themselves. They

have put their seal to their own littleness, illiberality, prejudice, and ignorance; and certified to posterity that they resisted, to the utmost of their power, the progress of the highest philosophy ever submitted to the consideration of the human understanding. Time will decide which judgment applies to them.

ARTICLE X.

PHRENOLOGY IN SWEDEN AND GERMANY.

The following is a translation of part of a letter lately received by the Keeper of the Museum of the Phrenological Society, from Mr G. M. Schwartz, "Directeur en Chef du Controle de Suede" at Stockholm, a gentleman already known to our readers as the author of an essay on the nature of the reflecting faculties, published in the sixth volume of this Journal, p. 326. It contains some interesting information on the progress of Phrenology on the continent.

"You ask me what success Phrenology may hope for in Sweden. Little, I believe, as a science, but much in its applications. The Swede has, like the Frenchman, a practical mind; and though in general more given to reflection than the latter, he is too much attached to that comfortable way of living which gives direct satisfaction to his vanity, to addict himself to profound researches. But, on the other hand, he is by no means shackled by prejudice and superstition, and adapts himself, both in his private and in his social life, to the progress of civilization, not only willingly, but I may almost say with greater facility than any other nation. Many Swedes attended Dr Gall's lectures in Germany, France, and Denmark; and several physicians, aided by the worthy and skilful Dr Jacobson of Copenhagen, have adopted his method of dissecting the brain. We have had, since the year 1806, a very good summary in the Swedish language, of every thing that Dr Gall had made known in his lectures down to that period; and the excellent works of Dr Otto of Copenhagen are read here with great interest by persons who have previously had occasion to form a favourable opinion on the subject. In short, the works of Gall, Spurzheim, and Combe, are already to be found in some of the public libraries, and in the hands of several distinguished individuals. But the difficulty of acquiring a practical knowledge of Phrenology has generally kept the ideas of my countrymen respecting it in a vague and imperfect condition. I was therefore glad to avail myself of a favourable opportunity to form a small phrenological museum, accessible to every friend of science, and, by the

aid of Mr Deville of London, I brought together in 1825 a pretty well assorted collection, to which I have added various casts obtained in France, and others, both original and copied, which I had already gathered here since 1803. It has been a very interesting employment for me to collect a number of antique heads, which, in an almost uniform manner, strikingly accord with the doctrines of Phrenology. Many casts of particular heads and remarkable skulls, and even some small collections brought from England, may be found scattered among private individuals.* With all this, I dare not hope that in Sweden great services will be rendered to the science, partly for the reasons before mentioned, and partly because most of our attention is devoted to foreign literature, so that our men of learning have not that stimulus which is found wherever there is an extensive demand for works written in the native language.

"It would be of much greater importance to be able to foster Phrenology in Germany, the land of the sciences *par excellence*, where, having once taken root, it would make incalculable progress. I have in fact begun a correspondence with some of the savans of that country, and have just sent a small collection to Mr Bachman, Professor of Philosophy at the University of Jena; and I shall soon be able to offer another to Professor Friederick, of the University of Würzburg, who is the editor of a much esteemed psychological journal, *Magazin für Seelenkunde*, of which seven numbers have already appeared. Dr Gall, misled by that kind of literary *mob* which aspires at the direction of public opinion, thought to find only adversaries in Germany, while not only almost all the philosophers and psychologists, but in a particular manner the physiologists*, never mentioned him but with much respect. But what can be accomplished without well directed observation? The greatest benefit which the Society at Edinburgh could confer on the science would be to send to each of the principal German universities,—as those of Gottingen, Halle, Berlin, Leipsic and Mu-

* A gentleman, who conversed about two years ago with Professor Blumenbach at Gottingen, and attended a course of his lectures, informs us, that that celebrated physiologist spoke of Dr Gall in high terms of esteem and regard. Phrenology, he said, though he could not admit all the inferences of its advocates, was certainly not entirely destitute of foundation. Blumenbach himself attended a course of lectures given by Dr Gall, with so much regularity, that, as he expressed it, "he never was absent a day." He stated to our informant, that he kept constantly beside him a copy of the *Elements of Phrenology* by Mr Combe of Edinburgh, to which he made frequent reference. It is remarkable, that though he has possessed every opportunity of putting to the test, and contradicting, if necessary, the observations of phrenologists, he has in his work on the skulls of nations (*Decades Craniorum*) carefully avoided every allusion to the subject.—EDITOR.

nich,—a small well-selected collection of casts, such as those which illustrate Combe's *System*, and several other works.

"I have taken the liberty of addressing to you some casts for the collection of the Phrenological Society. They are not such as I would have wished to present, but I do not possess the moulds of any others. I am about to get duplicates made of the heads of two Laplanders, a man and a woman, of which I already have casts, and shall have the honour of presenting them to the Society, along with several others, next summer. The casts sent are, 1. A skull of a Swedish Laplander from the neighbourhood of the River Kaitom, which is a north-western branch of the River Kalix. 2. A Mask of Charles XII. on which the mortal wound appears. This mask was taken some time after death, and is remarkable for little more than the contrast which it presents to the picture which the imagination is apt to draw of a hero of a spirit so unbending. 3. Two miniature busts of the celebrated mineralogist Werner, of Saxony. 4. The upper part of the reputed skull of St Brigitte, of which the original is preserved as a precious relic in the church of the city of Wadstena in Sweden. That woman, descended of a noble family, lived to a great age, and was canonized at Rome in the year 1391. She rendered herself remarkable by her piety, by her revelations, and particularly by her extraordinary fastings and penances, in which she forced her husband and children to join."

Mr Schwartz has communicated also a systematic sketch of Phrenology, with some ingenious observations on the different faculties of the human mind. Our limits, however, do not permit their insertion in the present number.

NOTICES.

At the LONDON MECHANICS' INSTITUTION, Phrenology is now a regular branch of study.

EDINBURGH.—We are again under the necessity of postponing the notice of the Proceedings of the Phrenological Society from want of room. The Society terminated its meetings for the season on Thursday 26th April. In the beginning of April, Mr Combe, in compliance with a request from Dr Macintosh, delivered six lectures in the Clyde Street Hall on Insanity, to the students attending Dr Macintosh's lectures on the Theory of Medicine. Two hundred students, and between thirty and forty gentlemen not connected with the class, attended, and the lectures were received with profound and sustained attention. Mr Combe has complied with a requisition from the operative classes of Edinburgh to deliver a course of lectures to them in the evenings. The lectures commenced on 7th May, at half-past eight in the evening, are numerously attended, and will be continued on the evenings of Mondays and Thursdays till the beginning of July.—We have received a very able and interesting work on "the Epidemic Cholera of India," by Mr

Samuel Dickson, assistant surgeon of the Royals; and regret that, owing to its being entirely medical, we cannot do justice to it in this journal.

PARIS.—The Phrenological Society of Paris has offered a prize of 500 francs (twenty guineas) to the best essay on the following subject: “Exposer les connaissances positives qui constituent la science phrénologique dans son état actuel.” The essays must be written in French or Latin, and transmitted, free of expense, before 1st June 1832, to M. Casimir Broussais, *secrétaire-général*, Rue de l’Université, No. 25, à Paris.

Dr VIMONT’S admirable work on Comparative Phrenology advances. It has reached the 6th Number, and the plates continue to exhibit all the excellence promised by the first specimen. The subscribers feel the want of the letter-press, however, or descriptions; and we recommend that a portion of it should be given as early as possible.

DINGWALL.—The inhabitants of this town having resolved to erect an Infant School, Sir George Mackenzie, with the double view of increasing the funds of the association, and diffusing a knowledge of Phrenology, offered to give a course of lectures on that science at Dingwall. Sir George’s offer was readily accepted, and a small collection of skulls and casts was forthwith transmitted from Edinburgh to Ross-shire. The course has just been completed. The audience was highly respectable and attentive, and took much interest in the subject. Above forty tickets were issued, and the seats were always full. The foundation of the Infant School is immediately to be laid with masonic honours, and will prove of much benefit to the inhabitants of Dingwall.

We heartily applaud Sir G. Mackenzie for the example which he has set to men of scientific acquirements and independent fortune, blessed at once with superior knowledge and unlimited leisure, of the use which they ought to make of their talents and time. If country gentlemen, in general, would cultivate their own minds, and then condescend to become the voluntary and disinterested instructors of their industrious neighbours, the moral condition of society would be incalculably improved, and a fine harmony of feeling and interest diffused through all classes of society, affording the firmest basis to government and social institutions. Some men of Sir George’s rank will probably treat his usefulness with ridicule. We do not envy their mental condition. Only the barrenness of their intellects, and the coldness of their moral sympathies, can give rise to impressions of disrespect from contemplating such actions.

“A FEMALE PHRENOLOGIST,” who writes from London, suggests, “as a source of moral improvement, that all individuals, whether in confinement or at liberty, should keep a daily account of their actions, desires and sentiments.” In this way, she says, “they would, by examining what they had previously noted for perusal, be able to see what to avoid, and practise that only which they might find worthy of the attention of rational beings.” We refer our fair correspondent to the sixth volume of our Journal, page 238, where she will find the details of a scheme in some degree resembling that proposed, and which has been practised with much success by various families in Edinburgh. The “Table of Duties under the Natural Laws,” there exemplified, may be obtained from our publishers. It has reached a second edition.

We have received a report of a Phrenological discussion which lately took place in the Andersonian University at Glasgow, and an interesting account of the intelligence of the Miners at Leadhills; but both too late for this Number. They will appear in our next.

Edinburgh, 15th May 1832.

THE
PHRENOLOGICAL JOURNAL.

No. XXXIII.

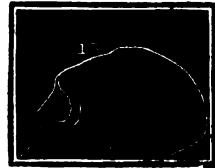
ARTICLE I.

ON VOLUNTARY DISTORTIONS OF THE HUMAN FIGURE
BY ARTIFICIAL COMPRESSION.

WE have frequently remarked that one grand distinction between the lower animals and man consists in this,—that the Creator prescribes the food, clothing, occupations, and mode of life which are best suited to the nature of each animal, without consciousness, on its part, of the wisdom of the arrangements of which it is the object ; whereas man is left to employ his observing and reflecting faculties in studying his own and external nature, and in adapting his conduct to both. The lower animals never attempt to build habitations inconsistent with, or injurious to, their health and enjoyment : Men, in a state of ignorance, frequently commit the most hurtful errors in constructing their dwellings. The lower animals are never injured by the clothing which nature provides for them ; while man frequently produces great suffering to himself and his offspring, by injudicious exercise of his talents in this department. But the most injurious and fantastic displays of human error proceeding from ignorance, are seen in the modifications of the form of the body itself, attempted by different nations, with the view of enhancing their comeliness and beauty.

The Charib admires a very low and retreating forehead, and by the application of sand-bags in infancy, he increases the deficiency of the reflecting organs, which, in that people, appears to be naturally very conspicuous. He produces, as the *ne plus ultra* of beauty, the annexed form.

CHARIB.



P P

To an enlightened man, this appears an extravagant and hurtful perversion of taste, and unspeakably injurious in its moral consequences. These people, and indeed many of the American tribes, sedulously labour to extinguish in themselves the noblest attributes of humanity, the powers of reflection and benevolence, by preventing the growth of the organs of those faculties.

The Chinese have directed their attention to the opposite extremity of the human figure, and aspired to improve upon the wisdom of the Creator, by diminishing, by artificial compression, the feet of their females.

European ladies perceive the absurdity and want of enlightened taste which characterise these attempts; but they have entertained the project of improving the form of the body by compressing the waist, a proceeding literally analogous to those of the Charibs and Chinese, on the head and feet. The fundamental principle, that human beings require to study their own constitution before being able to turn it to the best account, has not been recognized by any nation in the world; and our fair countrywomen in particular proceed as ignorantly and recklessly in compressing their figures, as the veriest savages who deform their nature by artificial operations, whether of compression, boring, or tattooing.

On 20th May 1829, the *Scotsman* published an admirable Essay "On the Compression of the Waist in Females, by the use of Corsets." It is so replete with sound philosophy and practical wisdom, that we have solicited and obtained the permission of the enlightened and philanthropic Editor of that Journal to re-publish it. We present it entire, and have added figures of the osseous trunk of the body, and of the contents of the thorax and abdomen, to give greater effect to his observations.

We have been favoured, says the *Scotsman*, with the perusal of an interesting essay on this subject by a medical gentleman, which has more fully opened our eyes to the mischiefs resulting from the compressed waists now in fashion—mischiefs which, in the paper before us, are exposed with a clearness and weight of evidence, that must carry conviction to the mind of the most incredulous. The paper is so ably written and conclusive, that we should have been happy to print it entire, had its scientific form not rendered it too learned for the readers of newspapers. In the abstract of its contents which we shall submit, the author's statements must lose something of the precision and force, which the introduction of anatomical details, with a frequent reference to plates, enable him to bestow upon them; but we think we shall be able, in a general way, to shew young ladies what injury to health,

their compliance with the present unnatural fashion, if persevered in, is certain to entail upon them.

Fashion lives on novelty, and we have on this account much charity for its wanderings and eccentricities. Bonnets with a snout as long as an elephant's proboscis, or a margin as broad as a Winchester bushel, are merely ridiculous. Shoulders that look like wings, and sleeves as wide as a petticoat, we think are not particularly graceful; but they have at least the merit of being airy, and we take no offence. We cannot, however, extend our indulgence to the compressed waist which is the rage at present. We know that as often as the waist is lengthened to its natural limits, this tendency to abridge its diameter appears; and we confess we are puzzled to account for the fact, for surely it is strange, that a permanent prepossession should exist in favour of a mode of dress, which is at once ugly, unnatural, and pernicious. Were fashion under the guidance of taste, the principles of drapery in painting and sculpture, would never be lost sight of in its changes. The clothes that cover us, may be disposed in an infinite variety of forms, without violating those rules which the artist is careful to observe. The true form of the body ought to be disclosed to the eye, without the shape being exhibited in all its minutiae as in the dress of a harlequin; but in no case should the natural proportions (supposing the figure to be good) be changed. Ask the sculptor what he thinks of a fashionable waist, pinched till it rivals the lady's neck in tenuity; and he will tell you it is monstrous. Consult the physician, and you will learn that this is one of those follies, in which no female can long indulge with impunity; for health and even life are often sacrificed to it.

We ought to mention, that the writer of the paper before us, has taken for ground-work an "Essay on the use of Corsets," by the celebrated German physiologist Soemmering, but with the statements of that author he has combined many valuable remarks of his own.

Corsets are used partly as a warm covering to the chest, and partly to furnish a convenient attachment to other parts of the female dress. This is all proper and correct; but to these uses fashion superadds others, originating in fantastical notions of beauty. Corsets are employed to modify the shape, to render the chest as small below, and as broad above, as possible, and to increase the elevation, fulness, and prominence of the bosom. To shew how this affects the condition of the body, we must begin by giving a short description of the thorax or chest, which is the subject of this artificial compression.

Every one who has seen a skeleton, knows that the chest consists of a cavity protected by a curious frame-work of bones.

To an enlightened man, this appears an extravagant and hurtful perversion of taste, and unspeakably injurious in its moral consequences. These people, and indeed many of the American tribes, sedulously labour to extinguish in themselves the noblest attributes of humanity, the powers of reflection and benevolence, by preventing the growth of the organs of those faculties.

The Chinese have directed their attention to the opposite extremity of the human figure, and aspired to improve upon the wisdom of the Creator, by diminishing, by artificial compression, the feet of their females.

European ladies perceive the absurdity and want of enlightened taste which characterise these attempts; but they have entertained the project of improving the form of the body by compressing the waist, a proceeding literally analogous to those of the Charibs and Chinese, on the head and feet. The fundamental principle, that human beings require to study their own constitution before being able to turn it to the best account, has not been recognized by any nation in the world; and our fair countrywomen in particular proceed as ignorantly and recklessly in compressing their figures, as the veriest savages who deform their nature by artificial operations, whether of compression, boring, or tattooing.

On 20th May 1829, the *Scotsman* published an admirable Essay "On the Compression of the Waist in Females, by the use of Corsets." It is so replete with sound philosophy and practical wisdom, that we have solicited and obtained the permission of the enlightened and philanthropic Editor of that Journal to re-publish it. We present it entire, and have added figures of the osseous trunk of the body, and of the contents of the thorax and abdomen, to give greater effect to his observations.

We have been favoured, says the *Scotsman*, with the perusal of an interesting essay on this subject by a medical gentleman, which has more fully opened our eyes to the mischiefs resulting from the compressed waists now in fashion—mischiefs which, in the paper before us, are exposed with a clearness and weight of evidence, that must carry conviction to the mind of the most incredulous. The paper is so ably written and conclusive, that we should have been happy to print it entire, had its scientific form not rendered it too learned for the readers of newspapers. In the abstract of its contents which we shall submit, the author's statements must lose something of the precision and force, which the introduction of anatomical details, with a frequent reference to plates, enable him to bestow upon them; but we think we shall be able, in a general way, to shew young ladies what injury to health,

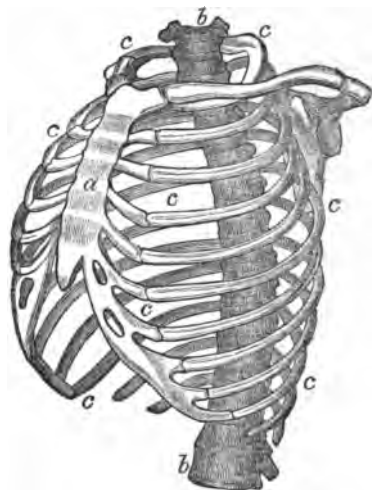
their compliance with the present unnatural fashion, if persevered in, is certain to entail upon them.

Fashion lives on novelty, and we have on this account much charity for its wanderings and eccentricities. Bonnets with a snout as long as an elephant's proboscis, or a margin as broad as a Winchester bushel, are merely ridiculous. Shoulders that look like wings, and sleeves as wide as a petticoat, we think are not particularly graceful; but they have at least the merit of being airy, and we take no offence. We cannot, however, extend our indulgence to the compressed waist which is the rage at present. We know that as often as the waist is lengthened to its natural limits, this tendency to abridge its diameter appears; and we confess we are puzzled to account for the fact, for surely it is strange, that a permanent prepossession should exist in favour of a mode of dress, which is at once ugly, unnatural, and pernicious. Were fashion under the guidance of taste, the principles of drapery in painting and sculpture, would never be lost sight of in its changes. The clothes that cover us, may be disposed in an infinite variety of forms, without violating those rules which the artist is careful to observe. The true form of the body ought to be disclosed to the eye, without the shape being exhibited in all its minutiae as in the dress of a harlequin; but in no case should the natural proportions (supposing the figure to be good) be changed. Ask the sculptor what he thinks of a fashionable waist, pinched till it rivals the lady's neck in tenuity; and he will tell you it is monstrous. Consult the physician, and you will learn that this is one of those follies, in which no female can long indulge with impunity; for health and even life are often sacrificed to it.

We ought to mention, that the writer of the paper before us, has taken for ground-work an "Essay on the use of Corsets," by the celebrated German physiologist Soemmering, but with the statements of that author he has combined many valuable remarks of his own.

Corsets are used partly as a warm covering to the chest, and partly to furnish a convenient attachment to other parts of the female dress. This is all proper and correct; but to these uses fashion superadds others, originating in fantastical notions of beauty. Corsets are employed to modify the shape, to render the chest as small below, and as broad above, as possible, and to increase the elevation, fulness, and prominence of the bosom. To shew how this affects the condition of the body, we must begin by giving a short description of the thorax or chest, which is the subject of this artificial compression.

Every one who has seen a skeleton, knows that the chest consists of a cavity protected by a curious frame-work of bones.



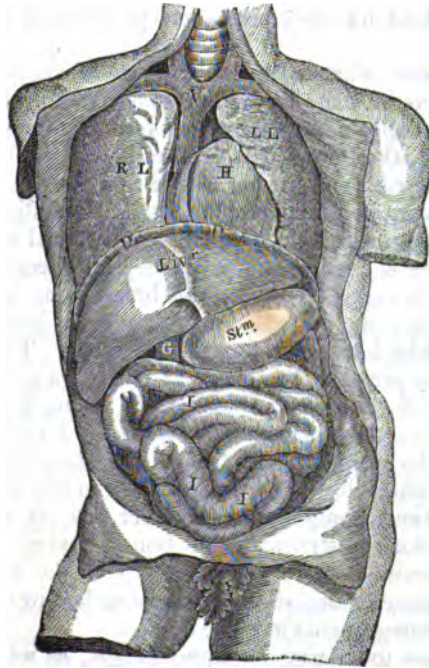
These are, 1st, the backbone *bb* (consisting of *vertebrae*, or short bones jointed into one another) which sustains the whole upper part of the trunk; 2d, the breastbone *a*, about 7 or 8 inches long, and composed of three pieces; and 3dly, the ribs *cccc*, of which there are generally 24. The twelve ribs on each side, are all fixed to the backbone behind; seven of these, the seven uppermost, are also attached to the breastbone before, and are therefore called *true ribs*. The eighth rib has its end turned up and rests on the seventh; the ninth rests in the same way on the eighth; but the tenth, eleventh, and twelfth, are not connected with one another in front at all. The fore extremity of each rib consists not of bone, but of an elastic substance called cartilage. The elasticity of this substance, combined with the oblique position of the ribs, constitutes a beautiful provision, in consequence of which the chest enlarges and contracts its volume to afford free play to the lungs.

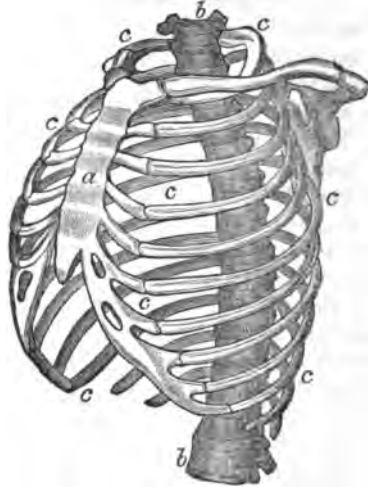
We now wish to call attention to the form of this cavity, which, as we have seen, is surrounded and protected by the backbone, ribs, and breastbone, and is called the *thorax* or chest. The uppermost pair of ribs, which lie just at the bottom of the neck, are very short; the next pair is rather longer; the third longer still; and thus they go on increasing in length to the seventh pair, or last *true ribs*, after which the length diminishes, but without materially contracting the size of the cavity, because the false ribs only go round a part of the body. Hence the chest has a sort of conical shape, or it may be compared to the bee-hives used in this country, the narrow or pointed end being next the neck, and the broad end undermost. The natural form of the thorax, in short, is just the reverse of the fashionable

shape of the waist. The latter is narrow below, and wide above; the former is narrow above and wide below.

The *contents* of the thorax are first; the Heart H, which is the centre of the circulating system, and which, for the sake of its metaphorical offices, every lady must be anxious to keep from injury. Next, the Lungs, R L and L L (right lung and left lung), which occupy by far the largest space, and of the delicacy of whose operations every one may judge. There are, besides, either within the thorax or in juxta-position with it, the Stomach, St^m.; liver, Livr.; Gall-bladder G, and Kidneys, with the œsophagus, the trachea or windpipe, part of the Intestines I I I, and many nerves—all intimately connected with the vital powers. Most of these organs are not only of primary importance in themselves, but, through the nerves, arteries, &c. their influence extends to the head and the remotest parts of the limbs, so that when they are injured, *health is poisoned at its source*, and the mischief always travels to other parts of the system.

Contents of Thorax and Abdomen.





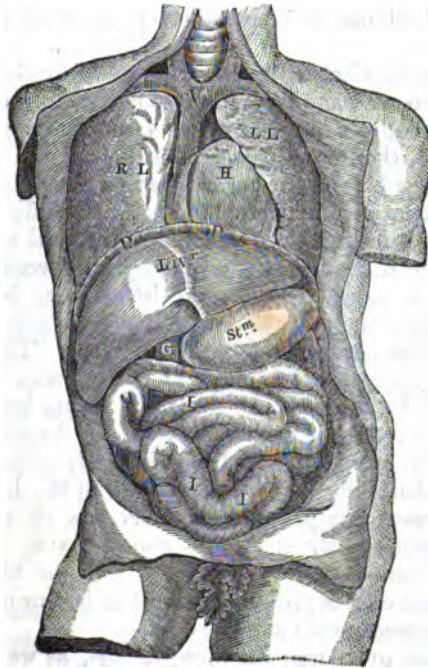
These are, 1st, the backbone *bb* (consisting of *vertebrae*, or short bones jointed into one another) which sustains the whole upper part of the trunk; 2d, the breastbone *a*, about 7 or 8 inches long, and composed of three pieces; and 3dly, the ribs *ccc*, of which there are generally 24. The twelve ribs on each side, are all fixed to the backbone behind; seven of these, the seven uppermost, are also attached to the breastbone before, and are therefore called *true ribs*. The eighth rib has its end turned up and rests on the seventh; the ninth rests in the same way on the eighth; but the tenth, eleventh, and twelfth, are not connected with one another in front at all. The fore extremity of each rib consists not of bone, but of an elastic substance called cartilage. The elasticity of this substance, combined with the oblique position of the ribs, constitutes a beautiful provision, in consequence of which the chest enlarges and contracts its volume to afford free play to the lungs.

We now wish to call attention to the form of this cavity, which, as we have seen, is surrounded and protected by the backbone, ribs, and breastbone, and is called the *thorax* or chest. The uppermost pair of ribs, which lie just at the bottom of the neck, are very short; the next pair is rather longer; the third longer still; and thus they go on increasing in length to the seventh pair, or last *true ribs*, after which the length diminishes, but without materially contracting the size of the cavity, because the false ribs only go round a part of the body. Hence the chest has a sort of conical shape, or it may be compared to the bee-hives used in this country, the narrow or pointed end being next the neck, and the broad end undermost. The natural form of the thorax, in short, is just the reverse of

shape of the waist. The latter is narrow below, and wide above; the former is narrow above and wide below.

The *contents* of the thorax are first; the Heart H, which is the centre of the circulating system, and which, for the sake of its metaphorical offices, every lady must be anxious to keep from injury. Next, the Lungs, R L and L L (right lung and left lung), which occupy by far the largest space, and of the delicacy of whose operations every one may judge. There are, besides, either within the thorax or in juxta-position with it, the Stomach, St^m.; liver, Livr.; Gall-bladder G, and Kidneys, with the œsophagus, the trachea or windpipe, part of the Intestines I I I, and many nerves—all intimately connected with the vital powers. Most of these organs are not only of primary importance in themselves, but, through the nerves, arteries, &c. their influence extends to the head and the remotest parts of the limbs, so that when they are injured, *health is poisoned at its source*, and the mischief always travels to other parts of the system.

Contents of Thorax and Abdomen.

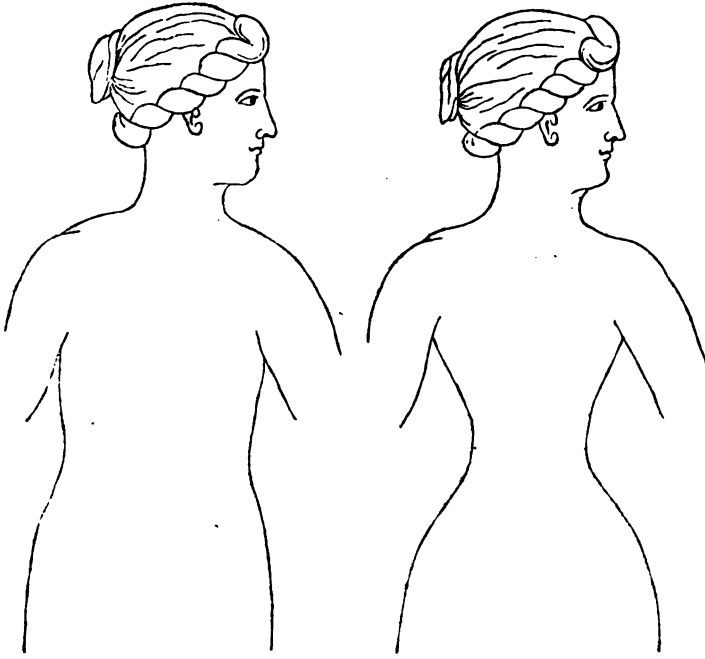


The lower part of the thorax is also much more compressible, and of course more easily injured by ligatures than the upper. In the upper part, the bones form a complete circle; and from the small obliquity of the ribs, this circle presents a great power of resistance to external pressure. But the last five ribs, called the false ribs, besides being placed more obliquely, become weaker as they decrease in length, and having no support in front, their power of resisting external pressure, is probably six times less than that of the true ribs. Hence ligatures applied to this part of the body, may contract the natural size of the cavity perhaps one half. Nature, in this instance, has intrusted the Belle with a discretionary power,—guarding against its abuses, however, by severe penalties. If she chooses to *brave the consequences*, she may always, with the help of lace and cord, produce a great change on this part of her person.

From the great care nature has bestowed to strengthen the outer shell of the thorax, and to combine mobility with strength, we may judge of the importance of the organs within, and of the value of free motion to their healthy action. It is a further proof of this, as Soemmering observes, that the ribs are the first part of the bony framework which nature forms, for in the unborn child no other bones except those of the ear are so perfect.

Imagine, now, what is the consequence of applying compression, by corsets of some unyielding material, to a cavity enclosing so many delicate organs, whose free action is essential to health. First, the lowest part of the shell of the thorax yields most; the false ribs; and the lower true ribs, are pressed inwards; the whole viscera in this part of the body, including part of the intestines, are squeezed close together and forced upwards; and as the pressure is continued above, they are forced higher still. If the lacing is carried farther, the breast-bone is raised, and sometimes bent; the collar-bone protrudes its inner extremity; and the shoulder-blades are forced backwards. The under part of the lungs is pressed together, and the entrance of the blood into it hindered; the abdominal viscera, being least protected, suffer severely; the stomach is compressed, its distension prevented, and its situation and form changed, giving rise to imperfect digestion; the blood is forced up to the head, where it generates various complaints; the liver has its shape altered and its functions obstructed; the bones having their natural motions constrained, distortion ensues, and the high shoulder, the twisted spine or breastbone, begins at last to manifest itself through the integuments and the clothes.

It is needless to enlarge on these details, as we shall give a list of the diseases generated by tight corsets by and by. A mere inspection of the following figures will show the unnatural change produced in the body by hard lacing.



The figure on the left exhibits the waist of the Medicean Venus, which is considered as the type of the female form in its finest symmetry ; on the right you have the same form squeezed into fashionable proportions by the steam-power of modern corsets. This figure is copied as literally as possible from the engraving which accompanies the Essay, and whatever some persons little conversant with the secrets of the toilet may think, we believe it is not exaggerated. A single glance at these figures will show better than many pages of argument, what havoc tight-lacing must produce in the delicate and complicated mechanism lodged within the chest.

" Another effect of tight corsets," says the Essayist, " is, that those who have been long so closely laced, become at last unable to hold themselves erect, or move with comfort without them, but, as is very justly said, *fall together*, in consequence of the natural form and position of the ribs being altered. The muscles of the back are weakened and crippled, and cannot maintain themselves in their natural position for any length of time. The spine, too, no longer accustomed to bear the destined weight of the body, bends and sinks down. Where tight-lacing is practised, young women from 15 to 20 years of age, are found so dependent upon their corsets that they faint

whenever they lay them aside, and therefore are obliged to have themselves laced before going to sleep. For as soon as the thorax and abdomen are relaxed, by being deprived of their usual support, the blood rushing downwards, in consequence of the diminished resistance to its motion, empties the vessels of the head, and thus occasions fainting."

"From 1760 to about 1770," says Soemmering, "it was the fashion in Berlin and other parts of Germany, and also in Holland a few years ago, to apply corsets to children. This practice fell into disuse, in consequence of its being observed, that children who did not wear corsets grew up straight, while those who were treated with this extraordinary care, got by it a high shoulder or a hunch. Many families might be named, in which parental fondness selected the handsomest of several boys to put in corsets, and the result was, that these alone were hunched. The deformity was attributed at first to the improper mode of applying the corsets, till it was discovered that no child thus invested, grew up straight, not to mention the risk of consumption and rupture which were likewise incurred by using them. I, for my part, affirm, that I do not know any woman who, by tight-lacing, (that is, by artificial means), has obtained 'a fine figure,' in whom I could not, by accurate examination, point out either a high shoulder, oblique compressed ribs, a lateral incurvation, of the spine in the form of an Italic S, or some other distortion. I have had opportunities of verifying this opinion among ladies of high condition, who, as models of fine form, were brought forward for the purpose of putting me to silence."

Young ladies in course of time hope to become wives, and wives to become mothers. Even in this last stage, few females have the courage to resist a practice which is in general use, though to them it is trebly injurious. But it is sufficient to glance at this branch of the subject, on which, for obvious reasons, we cannot follow our Medical Instructor. It is lamentable, however, that mothers who have themselves experienced the bitter fruits of tight-lacing, still permit their daughters to indulge in it. There is, in truth, no tyranny like the tyranny of fashion. "I have found mothers of discernment and experience," says Soemmering, "who predicted that in their 25th year, a hunch would inevitably be the lot of their daughters, whom they nevertheless allowed to wear corsets, because they were afraid to make their children singular."

But it is time to speak of the diseases produced by the passion for *slender waists*. "One is astonished," says Soemmering, "at the number of diseases which corsets occasion. Those I have subjoined rest on the authority of the most eminent physicians. Tight-lacing produces—

"*In the Head*; headach, giddiness, tendency to fainting, pain in the eyes, pain and ringing in the ears, and bleeding at the nose.

"*In the Thorax*; besides the displacement of the bones, and the injury done to the breast, tight-lacing produces shortness of breath, spitting of blood, consumption, derangement of the circulation, palpitation of the heart, and water in the chest.

"*In the Abdomen*; loss of appetite, squeamishness, eructations, vomiting of blood, depraved digestion, flatulence, diarrhœa, colic pains, induration of the liver, dropsy, and rupture. It is also followed by melancholy, hysteria, and many diseases peculiar to the female constitution, which it is not necessary to enumerate in detail."

But the injury falls not merely on the inward structure of the body, but also on its outward beauty, and on the temper and feelings with which that beauty is associated. Beauty is in reality but another name for that expression of countenance which is the index of sound health, intelligence, good feelings, and peace of mind. All are aware that uneasy feelings existing habitually in the breast, speedily exhibit their signature on the countenance, and that bitter thoughts, or a bad temper, spoil the human face divine of its grace. But it is not so generally known that irksome or painful sensations, though merely of a physical nature, by a law equally certain, rob the temper of its sweetness, and as a consequence, the countenance of the more ethereal and better part of its beauty. Pope attributes the rudeness of a person usually bland and polished, to the circumstance, that "he had not dined;" in other words, his stomach was in bad order. But there are many other physical pains besides hunger that sour the temper; and, for our part, if we found ourselves sitting at dinner with a man whose body was girt on all sides by board and bone, like the north pole by thick-ribbed ice, we should no more expect to find grace, politeness, amenity, vivacity, and good-humour, in such a companion, than in Prometheus with a vulture battenning on his vitals, or in Cerberus, whose task is to growl all day long in chains.

It may not be amiss to inform the ladies, that, according to our medical instructor, the red pointed nose which glows, rather inauspiciously, on some female faces, is in many cases the consequence of tight-lacing.

A few days ago, another medical friend told us that he was present when the body of an elderly lady was opened, who had in her day been fashionable, and whose liver bore testimony to the fact, for it had an indentation deep enough to hold a large finger, exactly where the belt or girdle was worn in her younger days. We need scarcely add, that she died of inveterate stomach complaints, and that she was past life's meridian, but not

old. In one respect, ladies who lace tightly may be said to provide against the decay of their beauty, since they take the best security against reaching *old age*, which, as every one knows, rifles woman of her outward charms.

In time past, we were ignorant enough to admire, like our neighbours, slender waists; but thanks to our medical friend, we are cured of this folly. We were wont to think that the Loves and the Graces played round such delicate forms; but in future we shall never see them without thinking of twisted bones, dropsy, consumption, indurated livers, fainting, spitting of blood, melancholy, hysteria, sour tempers, rickety children, pills, lotions, and doctors' bills.

As for our brethren of the male sex who are still in the bonds of error on this subject, we would refer them to the two figures prefixed, and ask them to "look on this picture and on that," and say whether, in encouraging females to ruin their health by bestowing their admiration on such forms as the one on the right, they are not patronising what is an outrage on taste, and a libel on the most perfect of Nature's works. Were a woman sculptured according to the proportions now fashionable, every one possessing common sense would pronounce the figure *monstrous*. The subject deeply concerns fathers and mothers, and indeed persons of all ages and stations. Fashion lords it over the lady of quality, but the milkmaid is not beyond its influence. At this day when medical knowledge is so much diffused, surely ignorance, caprice, or chance, should not be permitted to injure health and ruin constitutions, under the pretext of regulating our dress.

Thus far the *Scotsman*. It is impossible to add to the force of the reasoning here employed, and we simply ask, whether it is possible to view with gratification a practice by which the heart, stomach, lungs and liver, are compressed, distorted, and impeded in their functions? Let the reader look at the first lady with a compressed waist whom he shall see on the street, and reflect on the deep injury which her dress is inflicting on the fountains of health and vigour, and on the suffering which she is preparing for herself and eventually for her offspring; and in particular, let him observe her stiff and constrained motion, occasioned by the compression of the muscles and nerves of the back, and try to discover a line of beauty in her contour. We venture to predict that his perceptions of beauty will undergo an entire revolution as soon as his understanding is enlightened, and that no deformity in the female person will appear more painful and striking than a slender waist:—

Heaven ! that the human mind,
Warped by imagination, should believe,
Or e'en suggest it possible, the form,

Whose archetype the Deity himself
 Created in His Image, could be changed
 From its divine proportion, and receive
 From alteration, comeliness and grace !
 That round the zone which awkwardly reduced
 E'en to an insect ligament the waist,
 The blooming loves should sport, enticing charms,
 And young attractions !

Infancy, a Poem, by Downman.

ARTICLE II.

PARLIAMENTARY REFORM : OR THE EFFECTS OF THE ENLIGHTENMENT OF THE PEOPLE ON THE TITLES AND POSSESSIONS OF THE ARISTOCRACY.

MANY persons apprehend, that in consequence of the Reform in Parliament, which has now been obtained, the operative classes of society will be induced to persevere in insensible but constantly encroaching encroachments on the higher orders, and at length despoil them not only of their hereditary titles, but of their property and estates. This alarm appears to us chimerical. At the same time, we foresee considerable changes approaching in the condition of all ranks in the state, and we shall briefly explain the nature and extent of the innovations which we anticipate. We do not expect that the alterations will take place violently, or immediately ; on the contrary, a century or more may elapse before the results are fairly developed. Great and violent changes may indeed be induced by the House of Peers resisting the wishes of the people, in affairs chiefly affecting the people ; but we do not calculate on such events. We assume that the higher orders, however much opposed at one time to reform, will now acquiesce in it, as an enactment that cannot be recalled ; and act rationally in the circumstances which have occurred. If they shall do so, the consequences which may be expected to follow, will be only those that will arise from the ordinary operation of the principles of human nature in the new condition in which the people of Britain will be placed. Our present object is to endeavour to unfold these probable results.

In No. 28 of this Journal, we stated our views of human nature,—that man is essentially a rational being ; that the occupations and enjoyments of life calculated to afford him real and permanent satisfaction, must bear direct reference to his whole faculties, animal, moral and intellectual, the latter bearing sway over and directing the former ; that, in both rich and poor, the elements of mind and body and the laws of nature are the same, so that that mode of life which is best calculated to pro-

mote the happiness of the one, is essentially adapted to advance the enjoyment of the other, and *vice versa*.

Bones, muscles, nerves, heart and lungs are bestowed on every human being ; and these, by the institutions of Providence, require to be exercised every day, as a condition indispensable to health and enjoyment. It is irksome and unprofitable to seek this exercise in sauntering, driving, or riding without an aim, but highly agreeable and advantageous to take it by engaging in useful pursuits ; and therefore it will be no calamity to any of the human race to see the occupations of social life so modified as to permit that degree of physical exertion which is necessary to the enjoyment of bodily health and mental alacrity, to be made by all, without compromising their dignity.

Again,—happiness consists in the active employment of our different powers ; and if enjoyment rise higher, be liable to fewer interruptions, and endure more permanently, in proportion to the excellence of the objects to which the faculties are directed, we may reasonably expect that pursuits calculated to gratify chiefly the lower feelings of our nature, will sink, while those fitted to satisfy the higher faculties, will rise in general estimation ; and that there will be a constantly increasing eagerness towards the latter. In particular, as the Creator has bestowed on the hind and the artisan organs of intellect for studying His works, and organs of moral and religious sentiments calculated to fit them for promoting the reign of peace, love, social sympathy, and refined enjoyment on earth, we may expect that this class, in proportion as they shall become enlightened, will endeavour to bring about an order of society in which machinery shall become the servant of men, and shall perform part of the work hitherto imposed on them ; in which their hours of labour shall be abridged ; and the severity of their toil abated ; so that they may become capable of thinking, and of enjoying the exercise of their moral and intellectual powers.

Changes such as these we consider inevitable in the future history of society. They may be distant, but they are on the wing. To those who disbelieve in their possibility, because past history affords no examples of similar improvements, we address a single remark. In the earlier ages of the world, physical science was unknown ;—the constitution of man, physical, moral, and intellectual, was unknown ;—and printing was unknown. The introduction of these elements into the social system has already operated a vast improvement ; and as new acquisitions of moral power are daily made by fresh discoveries, and by the wider diffusion of existing knowledge, the future ought to be different from, and brighter far than the past.

The notion that distinctions of ranks will be abolished, and that the highly gifted in intellect and moral sentiment will be re-

duced to a level with the ignorant and rude, is absurd. Mental distinctions are as deeply founded in nature, as differences in qualities purely physical; brains and temperaments differ, and minds therefore differ. All differences in social institutions, which rest on the basis of nature, must partake of her stability. While, however, fine qualities of mind and body confer on the possessor an inherent superiority, which cannot be destroyed, over beings less happily constituted, all institutions which aim at conferring superiority by means purely artificial, apart from, or in direct opposition to natural qualities, must be viewed in a different light; and the inquiry presents itself, in what respects do any of the purely artificial distinctions of ranks, now existing, impede the changes which the welfare of the community at large may hereafter demand? The existence of hereditary titles and honours, by conferring consequence, precedence, and political power on individuals who may not possess natural superiority, is at variance with reason, and cannot, therefore, if the world is constituted on sound principles, be ultimately productive of good; but it does not follow that they should be *immediately* or *violently* abolished. The chief evil of them consists in this, that the modes of life, opinions, pursuits, and feelings of an artificial class are presented as the highest standards to engage the ambition of all the other orders of society; and just because nature does not bestow gradations of real greatness on individuals, in exact conformity to their artificial rank, this class is prone to invent factitious distinctions, inconsistent with and opposed to nature, and to award consideration according to them. They cultivate the sentiment of "exclusiveness." The greater the deficiency of valuable qualities in themselves, the more prominent and striking do they desire to render the conventional distinctions. A century and a half ago, when nobles and the people were equally ignorant and ill-educated, the man of rank decked himself in laced clothes and gold spangles, wore a sword, had his hair cut out, and substituted in its place a huge wig. These insignia of greatness struck the imagination of an illiterate vulgar, and maintained them in awe-stricken subjection to beings so vastly superior to themselves in external appearance. In proportion as *mind* has advanced, and society has become capable of appreciating moral and intellectual qualities, the nobles have found it safe and agreeable to lay aside these decorations in ordinary life. The Duke of Wellington, walking or riding in a blue frock-coat, black silk handkerchief, blue trowsers, and boots, without lace, gold, or glitter, is recognised by the enlightened ranks of Britain as an object of respect, because he has manifested great military talents, and both he and they would feel himself debased, if he were presented to them habitually in the full bot-

tomed wig and laced coat which constituted the outward symbols of greatness in the days of Marlborough. A weak noble who should now resort to that costume to attract respect, would be treated with ridicule and contempt; and yet the day was, when the mere appearance of these vestments on the person, would have called forth profound reverence from thousands of the people.

The late Earl of Morton was destitute of genius and commanding qualities of mind, and was extremely jealous of his rank. He instinctively felt that he had no other title to superiority. The late Earl of Hopetoun, on the contrary, was great and good by natural endowments, and his honours were meekly borne. He had a sympathy with human nature, which made him cordially recognise nobility of mind in whatever station he found it; and he was loved and admired as a man, far beyond any homage that was rendered to his coronet. In losing his artificial rank, the former would have lost all title to consideration, while the latter would have experienced no change. Wherever nature bestows superiority, well-informed men delight to render homage to its possessor, and this sincere and spontaneous reverence is the only distinction which a virtuous and educated mind can enjoy. Ignorance in the votary is as essential to the worship of artificial rank, apart from personal merit, as it is to the adoration of idols destitute of all intelligence and power. When society shall be sufficiently enlightened, we think it probable that titles will be viewed in the same light as the laced coat and full bottomed wig,—as artificial distinctions devised to give an external appearance of greatness which may or may not be actually present. The really great will not desire them, but prefer the sincere respect which their own qualities will command.

The nobles will not be left forlorn when these days shall come, because other changes will have occurred to compensate them for the loss. Dukes of the present day do not regard themselves as unhappy, because the progress of social improvement has deprived them of the power of "pit and gallows," or of torturing and hanging men, which their feudal ancestors enjoyed. The same civilization which has abolished that privilege has brought with it so many compensating advantages to the nobles themselves, that they would shudder at the proposal to restore to them the possession of all the power, accompanied by all the ferocity, insecurity, and ignorance, of their ancestors. The higher ranks, when fired with the ambition of attaining to the true dignity of rational beings,—when enjoying that high health of body, and that pleasing vigour of mind, which will accompany a life spent in accordance with the constitution of nature,—will not sigh for their factitious titles, accompanied by

the inanities and vexations that now darken their existence. When they shall have learned the elementary principles of physiology, and acted upon them in their marriages, and thereby established a high born race according to Nature's patent of nobility, boasting of fine forms, fine temperaments, and fine brains, and have experienced the substantial and permanent advantages of such an inheritance, they will look back on the high-sounding dignities, the exclusive privileges, the disdainful pride, accompanied by the crooked spines, the diseased brains, the gouty limbs, the ignorant intellects, the paltry ambition, and empty pursuits of preceding ages, not with envy, as on glories past away, but with pity for their ancestors, and gratitude that they themselves have lived in a more enlightened age, when men distinguished substances from shadows.

There is no danger to the nobles that their titles will be abolished before the compensating advantages of a higher civilization are attained. While the tradesman's ambition shall be directed not to rational acquirements, but to rising in artificial consequence, the titles of nobles will rest on the same basis as the other institutions of society. There is extremely little probability of the people making irregular advances in civilization, and destroying one or two institutions that were suited to an age of barbarism, before they have acquired intelligence and morality sufficient to supersede their utility. The power of "pit and gallows" was not taken away from the feudal lords until the administration of civil and criminal law had become so vigorous in the country, as to afford them a better safeguard than they enjoyed from the exercise of their own authority. They had laid aside the practical use of their power before the law formally annulled it. In like manner, we see no reason to fear, that, so long as other rude opinions and institutions shall flourish, hereditary titles will be abolished, supposing no political conflict to hasten their dissolution. On the contrary, we think that the nobles will rest secure in possession of their privileges, until a higher civilization shall extinguish them, with their own consent, by rendering them no longer desirable. Men cannot worship idols, after they have discerned them to be purely stocks and stones; and it will be impossible for them to bow before names and parchments, when they shall have perceived that there is no mental substance worthy of respect behind them. That society is tending to this result, although slowly, we cannot doubt. Parliamentary reform will promote its arrival, by the stimulus which political discussions will communicate to the reasoning faculties of the people. The great mass of the active population must now acquire sound information concerning public affairs, and exercise their higher faculties, otherwise they will abuse their freedom, and allow anarchy to invade the social body.

Political leaders will find it to be their interest to co-operate with the friends of humanity in promoting education and every pursuit that may tend to raise the people in the scale of intelligence and morality. Artificial rank and titles, apart from personal merit, will be viewed in a very different light, by a highly instructed nation, from that in which they appear to one rude and ignorant.

Another apprehension entertained by some individuals belonging to the aristocracy is, that the lower orders of the people will rise *en masse*, and make spoil of their property and estates; but this also appears to us to be chimerical. What greater power than they possessed before, or inducement to this spoil, does Parliamentary reform, which was a regular legislative measure, confer on the mass of the people? The public do not participate in this fear. The funds are rising, and land is not falling in price, since the Reform Bill was passed. The right to property, acquired by a fair title, rests on the sentiment of justice; and it is a striking example of inconsistent and illogical deduction, emanating from fear, to conclude, that, in proportion as knowledge shall be disseminated, and the moral and intellectual faculties of the people shall be cultivated, they will desire to depart from the dictates of reason and the obligations of justice. As well might men prophecy, that, in proportion as the sun shall ascend in the hemisphere, and the clouds clear away, will the blackness of darkness increase. Such notions betray little knowledge of the constitution of the human mind. In the worst times of the French Revolution, was the project ever seriously entertained by the lower orders, as a body, to spoil the rich, and divide their possessions? With the exception of confiscation of the estates of the emigrants, not enacted by the lower orders, but by the republican rulers, property was not plundered in France, but remained in the hands of the great body of its owners. We repeat, that organs of moral sentiment exist in the lower as well as in the higher orders of the people, and that all social institutions, consistent with justice, rest as securely on these faculties as their basis, as our houses and temples do on the solid earth; and that the more highly the superior sentiments and intellect are cultivated, the firmer will become the ground-work of every beneficial institution. Property, therefore, will become more safe, in proportion to the diffusion of knowledge in the nation; and danger of its spoliation will be proportionally diminished.

There is one change, however, in regard to property, which the aristocracy may expect to experience, from an advance in civilization on the part of the people. At present, an individual possessing an income of L. 100 per annum feels himself poor, not so much on account of the want of real comforts, as because

he lives in society with a neighbour enjoying L. 200 a-year, who keeps a finer house, dresses more fashionably, and employs more servants; all which circumstances create a feeling of inferiority and envy in the poorer citizen. The man of L. 200 a-year, again, associates with a neighbour possessing L. 400 per annum, and sees himself completely eclipsed, and he also feels envious and discontented. The man of L. 400 a-year sees himself overtopped by another possessing L. 1000 a-year, who is overshadowed by a neighbour enjoying L. 2000 a-year, who again is eclipsed by another boasting of L. 10,000 a-year, who is utterly extinguished by a great noble, blazing in all the magnificence of L. 100,000 per annum. Unless the contentment which springs from high moral qualities is possessed, every one of these men, except the last, feels himself poor, not on account of the want of essential comforts, but because a standard of consideration has been erected in society, tried by which he is conscious of great inferiority; and he therefore pants and toils after an increase of wealth, so that he may elevate himself to a higher point in the scale; after attaining which, however, he is as unhappy as before, because he sees other fortunes still over-topping him, and mortifying his vanity. Each stage of civilization has its own criterion of consideration. In early times, the standard of individual excellence was muscular strength and manual dexterity.

In more advanced conditions, it included courage and combative skill;—in our day it is wealth; and the next step will be, to render physical health and beauty, combined with cultivated moral sentiments and enlightened intellect, the tests of individual excellence. As soon as Phrenology shall become known to the people at large, they will perceive that this is the only real standard acknowledged by nature, and they will aim at rendering it practical. It will then be discovered, that excessive inequality of fortune is adverse to the interests of society. A moderate extent of intelligence and morality is sufficient to enable an individual to accumulate wealth; and while property shall continue to form the chief ground of consideration, it will be difficult to induce the generality of men to aim at higher attainments. So long as individuals shall suffer mortification, and be excited to envy by the splendour, power, and consideration enjoyed by men of large estates, however moderate in moral and intellectual attainments, will they be stimulated by these feelings to direct their chief efforts towards augmenting their own fortunes; and so long will they pursue vanities as their chief business, instead of dedicating their powers to the cultivation of the better portions of their own nature. We do not insinuate that all men of aristocratical rank are deficient in natural qualities. On the contrary, we know well that high endowments abound among them; but our

proposition is, that these gifted persons care least for their artificial distinctions. The props of the factitious standard are the meagre in intellect, in moral sentiment, and in knowledge. If the great body of all ranks in Britain were supplied with the physical comforts of life, freed from immoderate care, blessed with reasonable leisure, and had their mental energies directed by the full impetus of social emulation to the development and enjoyment of their rational powers, we are enthusiastic enough to believe, that they would be greatly happier than in their present condition; and we can discover no unsurmountable obstacles on the part of nature to such a social state being realized. In Paris, mental qualities confer higher claims to consideration than in London; because in that city wealth is more limited in proportion to knowledge. If the great body of the English nation were so enlightened as to give precedence to all qualities and possessions, only in proportion to their intrinsic worth, a high stimulus would be afforded to the physical, moral, and intellectual improvement of the people; but the worship of pure wealth obstructs this advancement, by withdrawing from natural qualities the consideration to which they are legitimately entitled.

Persons of large property will probably ask, do we recommend partition of their estates as beneficial for the nation, notwithstanding what we have just written? Certainly not. Great Landholders may safely rely on the steady operation of the two principles which we have already stated; *1st*, that as long as the mass of society shall continue to worship wealth as the highest enjoyment, they will not permit its spoliation, because such a practice would be at direct variance with their own favourite passion of accumulation; and, *2dly*, that, if men shall ever become so civilized as to prefer the enjoyments springing from the cultivation of their own rational nature, to mere superfluity of physical possessions,—they will have no desire to commit spoliation on the sons of Mammon, because they will not covet their wealth.

The changes in regard to property to which we allude, will be these. At present the municipal law is framed with the deliberate purpose of favouring vast accumulations in the hands of individuals, of perpetuating this wealth in their descendants however deficient in physical, moral, and intellectual qualities, and of promoting, so far as in the power of law, the great differences of fortune, which we have stated to be adverse to the progress of morality and reason. When the people shall have become enlightened, they will insist for the abrogation of the laws which produce these effects,—namely, those of entail and primogeniture; but this may be done without touching an acre of the property of those in the legal possession of estates. The effect of

this repeal would be, that no individual could continue during life to hold large property without possessing judgment and morality, equal, at least, to the average of these qualities in the active and educated men of his own age. If he were foolish and inconsiderate, he would spend and lose his property, which would naturally fall into the possession of a man of higher mental qualities. Proprietors would then be compelled to keep in line with the other members of society in the march of moral and intellectual improvement. By the present state of the law, vast territories may, and sometimes do, pass into the hands of vain, ignorant, imbecile, and immoral individuals, and are transmitted unimpaired to their posterity by the mere force of the law itself, in defiance of the greatest mental deficiencies. Individuals thus placed above the laws of their own nature are invested with the power of erecting a standard of consideration fitted to their own meagre attainments, and of obstructing to a great extent the progress of knowledge and civilization. By repealing these laws, the power of raising a false standard, and of tempting the other members of society to measure attainments by it, would be taken away. If these laws were repealed, there would be a breaking down, in the course of a few generations, of the enormous fortunes now possessed by great families. This would remove the idols, whose existence and influence at present dazzle the imagination and captivate the ambition of the middle classes of society, and render them slaves to the pursuit of wealth, and comparatively indifferent to solid information and rational enjoyment. If the lower orders could be induced to abridge their hours of labour, and to devote the time gained to the cultivation of their mental faculties, in a few generations they would be elevated in the scale of intelligence and morality, and the two extremities of society, which are the strongholds of vice and misery, would both be improved. There would then be fewer obstacles, and more incitements, to the progress of sound principles and solid happiness in the nation at large.

Political economists fear the consequences of breaking down large properties, and prophecy that the ultimate result will be the reduction of the whole population to beggary. These philosophers appear to us to be frequently inattentive to the agency of the moral faculties in human affairs. They reason on effects which cannot be produced except by high morality and intelligence, as if they were capable of co-existing along with barbarism and ignorance. It is like speculating on the deplorable consequences which would ensue to the vegetable world, if the sun were for a whole year to give light but no heat. While society shall be constituted, as at present, on the principle, that

increase in wealth is of more importance than improvement in physical, moral, and intellectual qualities, it will be impossible to abolish entails and the rights of primogeniture; because the selfish feelings of the law-makers will cling to these institutions: On the other hand, whenever society at large shall recognise the object of life to be the cultivation and enjoyment of the rational powers of man, and that wealth is given to subserve this end, a degree of self respect, an efficiency of moral principle, a strength and vivacity of intellectual perception, together with a knowledge of real good, will be spread abroad among all ranks of the people, that will protect the world from extreme degradation, more effectually than it has hitherto been by the titled and untitled aristocracy, aided by their large estates, whether entailed or unentailed. It is absurd to fear that the lower orders, while rude and ignorant, will accomplish a repeal of these laws; because, in the first place, they will not have the power to succeed, and, in the second place, while in that condition of mind, they will be incapable of comprehending the effect of their repeal on society, or of taking an interest in consequences so remote as those to which it would lead.

These views may be shortly recapitulated.

Hereditary rank and titles will be safe as long as society at large shall continue ignorant and selfish: When men in general shall become moral and intelligent, individuals will be esteemed only for their intrinsic good qualities, and then artificial distinctions will be voluntarily laid aside as at variance with reason and the spirit of the age. Ample compensation will be afforded to the nobles for their loss, in the superior enjoyments which an advanced civilization will confer.

At all times property will rest safe from spoliation, because selfish men will protect it for their own sakes, and highly cultivated men will hold it sacred on the principles of justice.

Great disproportion in the wealth of individuals is injurious to morality, because it enables the rich to erect a standard of consideration separate from that of physical, moral, and intellectual excellence, whereby the ambition of ordinary minds is directed to the pursuit of wealth, in place of the improvement of their whole nature as rational beings. The proper remedy for this evil is, not to spoil the rich, but to repeal the laws favouring unequal distribution of wealth, and to frame others encouraging the moral and intellectual cultivation of the people; so that, on the one hand, no artificial props shall maintain weak and immoral persons in possession of power and consideration, and, on the other, no false standards shall mislead, and no artificial impediments obstruct, the progress of the lower orders in attaining all the enjoyments suited to their nature as rational beings.

Finally, there is no reason to fear the degradation of society

from the subdivision of property, because so long as men shall continue selfish and ignorant, they will not be inclined to repeal the laws that favour unequal distribution ; and whenever knowledge and morality shall be so widely diffused as to induce them to do so, the influence of high principles on enlightened minds will better support the dignity and happiness of man, than the large estates and hereditary titles of the aristocracy. In a state of free competition, there will be a more equal proportion between mental qualities and wealth, than at present.

ARTICLE III.

A BRIEF DISCOURSE CONCERNING THE DIFFERENT WITS OF MEN ; Written at the Request of a Gentleman, eminent in Virtue, Learning and Fortune, in the year 1664 ; by WALTER CHARLETON, D. M., and Physician in Ordinary to His Majesty. London 1675.

IT has ever appeared to us wonderful, that any individual, possessing ordinary powers of observation, should have adopted the opinion, that all minds are alike at birth, and that the differences subsequently to be found among them are the results merely of habit and education. Long before Phrenology had demonstrated the futility of such a theory, the doctrine of the natural diversity of human talents and sentiments was prevalent among philosophers ; and of these Dr Charleton appears, from the curious work quoted in our title, to have been one of the most shrewd and observant. The fact of radical mental variety, indeed, is assumed by him as self-evident, and his only care is to discover its causes. Here, however, he naturally enough finds himself beyond his depth, and candidly avows his ignorance. " For," says he, " though it be sufficiently evident, especially to physicians conversant about diseases of the head, that the seat and principal organ of the Intellectual Faculties is the brain, and that they are more or less perfect in their operations according to the divers temperament, magnitude, and schematism, of that noblest organ, and to the greater or less mobility of the animal spirits (if any such there be) contained and exercised therein ; though thus much (I say) be sufficiently manifest, yet what temperament, what magnitude, figure and schematism of the brain produceth acuteness of wit, and what causeth dulness, is hitherto unknown. Nor have anatomists, even in this dissecting and most curious age, been yet able certainly to inform themselves in what part of the brain that celestial guest, the reasonable soul, keeps her court of judicature ; what part she makes use of in Sensation, what in Imagination, what for Memory, or what for Ratiocination."—" Perhaps you hope that if anatomo-

mists proceed in their discoveries with the same accurate scrutiny, and the like happy success, as of late years they have done, some one of them may at length be so fortunate as to find out the true uses of all the several parts of the brain of man, and so solve all the difficulties that now amuse those who profoundly consider the wonderful economy thereof.”—“As for your expectation of farther discoveries from anatomy, that may afford more light to direct the *virtuosi* in their researches into this dark argument, I cannot indeed divine what time may bring forth; but am of opinion that there is less reason for your *hope* than for your *wish* of any such discovery; the nature of man’s mind being such that it cannot understand itself.” Phrenology is exactly the discovery which is here spoken of; and it is interesting to see with what accuracy the author anticipates the insufficiency of the labours of anatomists to throw light on this subject. He writes like a man who clearly perceived that dissection does not reveal the functions of any organs; a truth which is not even yet recognised as a practical principle by many of the physiologists who oppose Phrenology.

The only explanation of the “*ænigma*,” which Dr Charleton “dares” to give, “is only this, that, for the most part, men of hot and sanguine constitutions, *cæteris paribus*, are more ingenious and acute; and those of cold, gross, and phlegmatic, are more dull and slow of imagination.” This is the modern doctrine of the influence of the temperaments, but our author supposes the quality of the blood to be the proximate cause of the difference. His words are these:—“As it is obvious that the blood, being the fountain of natural heat, and in truth the only *calidum innatum*, by which all parts of the body are perpetually warmed, enlivened, and invigorated, and out of whose purer and agilest parts the animal spirits are supposed to be extracted, by how much more copious and pure the blood is, by so much more of heat is thence communicated to the brain and its appendix of nerves, (thereby made more firm and apt both to receive and retain the images or impressions of external objects, and more pervious to the animal spirits), and a greater supply of spirits generated out of it, and *e contra*. Hence, doubtless, it was, that Empedocles held the blood to be both the seat and cause of sapience: *Namque sanguinis tenuitate et munditia, animalia sapientiora sunt, sensumque mobiliorem obtinent: similiter vel timidiora, vel animosa, iracunda, et furiosa evadunt, prout sanguis eorum vel dilutus, vel fibris multis crassisque repletus fuerit*; De Part. Animal. l. 2. c. 4;—And that Dr Harvey, somewhere in his book Of the Generation of Animals, affirms it to be of no small advantage to the brain, that students and contemplative men preserve their mass of blood pure and uncorrupt.”

The author then proceeds to treat of the different kinds of mental endowment which are met with among mankind ; but finds himself obliged to restrict himself to the consideration of a few of the most prominent. "To go about," says he, "to describe the great variety of *ingenies* among men, though of but one and the same nation, were an attempt equally vain with his, who should endeavour to number the sands ; nor less impossible than for a painter to pourtray all the several faces in an army upon one table. As it is sufficient, therefore, to a well-drawn landscape, to contain the most eminent hills, buildings, trees, and other objects situate in the prospect of the eye within the horizon ; so it may be satisfactory, if among a vast number of different wits I select the most eminent, such as appear to be the springs or sources of many virtues, and not fewer vices."

The first which he specifies is "the Ready or Nimble Wit ; wherewith such as are endowed have a certain extemporary acuteness of conceit, accompanied with a quick delivery of their thoughts, so as they can at pleasure entertain their auditors with facetious passages and fluent discourses even upon slight occasions ; but being generally impatient of second thoughts and deliberations, they seem fitter for pleasant colloquies and drolery, than for counsel and design : Like fly-boats, good only in fair weather and shallow waters ; and then too, more for pleasure than traffic. If they be, as for the most part they are, narrow in the hold, and destitute of ballast sufficient to counterpoise their large sails, they reel with every blast of argument, and are often driven upon the sands of a *nonplus* ; but where favoured with the breath of common applause, they sail smoothly and proudly, and, like the city pageants, discharge whole volleys of squibs and crackers, and skirmish most furiously." "But take them from their familiar and private conversation into grave and severe assemblies, whence all extemporary flashes of wit, all fantastic allusions, all personal reflections, are excluded ; and there engage them in an encounter with solid *wisdom*, not in light skirmishes, but a pitched field of long and serious debate concerning any important question, and then you shall soon discover their weakness, and condemn that barrenness of understanding which is incapable of struggling with the difficulties of apodictical knowledge, and the deduction of truth from a long series of reasons. Again, if those very concise sayings and lucky repartees, wherein they are so happy, and which at first hearing were entertained with so much of pleasure and admiration, be written down, and brought to a strict examination of their pertinency, coherence, and verity ; how shallow, how frothy, how forced will they be found ! how much will they lose of that applause, which their tickling of the ear and present flight through the

imagination had gained ! In the greatest part therefore of such men, you ought to expect no deep or continued river of wit, but only a few *plashes*, and those, too, not altogether free from mud and putrefaction."

This is a lively and very accurate description of a character frequently to be found in society. Phrenologically analyzed, it presents the following elements : *First*, a head of moderate size ; no faculty being capable of manifesting itself with great power. *Secondly*, an active nervous temperament, bestowing quickness and vivacity. *Thirdly*, a considerable development of the organs of Language, Individuality, Eventuality, and Comparison, with moderate reflecting organs ; whereby the men of ready wit are enabled to give a quick delivery to their thoughts, "and glibly to discharge whole volleys of squibs and crackers, and skirmish most furiously ;" but without depth or comprehensiveness of mind. *Fourthly*, a moderate endowment of Secretiveness, which is necessary to permit a suitable unreservedness of manners ; and, *lastly*, a great endowment of Love of Approbation, giving that appetite for applause which prompts this class of men to "entertain their auditors with facetious passages." Boys possessing such heads are in general prodigiously clever at school, and raise expectations in the minds of their parents, which are frequently and miserably disappointed in after life.

Dr Charleton next treats of the "Ranging Wit," which bears considerable resemblance to the "nimble." His observations on this species present nothing remarkable, and we therefore pass to the third sort, which, says he, "is yet more useful than either, and may therefore not unfitly be called the *Slow* but *Sure* Wit." *Power*, more than *activity*, characterizes this species of intellectual endowment. It results from large organs of the reflecting faculties, combined with a proportionate deficiency of Language, Individuality, Eventuality, and Love of Approbation ; a greater endowment of Secretiveness and Cautiousness, and less of the nervous temperament, with more of the bilious, than are to be found in men of "ready wit." Dr Charleton's account of this character is the following :—"Some heads there are of a certain close and reserved constitution, which makes them at first sight to promise as little of the virtue wherewith they are endowed, as the former appear to be above the imperfections to which they are subject. Somewhat slow they are, indeed, of both conception and expression ; yet no whit the less provided with solid prudence. When they are engaged to speak, their tongue doth not readily interpret the dictates of their mind, so that their language comes as it were dropping from their lips, even where they are encouraged by familiar entreaties, or provoked by the smartness of jests, which sudden and nimble wits have newly darted at them. Costive they are also in invention, so that when they

would deliver somewhat solid and remarkable, they are long in seeking what is fit, and as long in determining in what manner and words to utter it. But, after a little consideration, they penetrate deeply into the substance of things and marrow of business, and conceive proper and emphatic words by which to express their sentiments. Barren they are not, but a little heavy and retentive. Their gifts lie deep and concealed; but being furnished with notions, not airy and umbratil ones borrowed from the pedantism of the schools, but true and useful; and if they have been manured with good learning, and the habit of exercising their pen, oftentimes they produce many excellent conceptions worthy to be transmitted to posterity." "Having, however, an aspect very like to narrow and dull capacities, at first sight most men take them to be really such, and strangers look upon them with the eyes of neglect and contempt. Hence it comes, that excellent parts remaining unknown, often want the favour and patronage of great persons, whereby they might be redeemed from obscurity, and raised to employments answerable to their faculties, and crowned with honours proportionate to their merits. The best course, therefore, for these to overcome that eclipse which prejudice usually brings upon them, is to contend against their own modesty, and either, by frequent converse with noble and discerning spirits, to enlarge the windows of their minds, and dispel those clouds of reservedness that darken the lustre of their faculties; or by writing on some new and useful subject, to lay open their talent, so that the world may be convinced of their intrinsic value." These remarks are philosophical and correct, and we have frequently seen them exemplified. Men of this class are, for the most part, dunces at school, but are often found to acquit themselves successfully in the most important situations of life.

The Ample, the Narrow, and the Malignant Wit, are next discussed by our author; but nothing is said upon them which appears to demand particular notice. He makes no attempt to unfold the cause of these varieties.

Dr Charleton then proceeds to put the interesting question—"What was the end which the Omniscent Creator designed to himself when he was pleased to constitute this so great and admirable variety?" And his answer, though offered with great modesty and diffidence, as his "foolish sentiments concerning this problem," is certainly not deficient in enlightened piety and philosophy.

"When I observe," says he, "that men are no less discernible each from other by the various inclinations, affections, and capacities of their minds, than by the dissenting features, lines, and airs of their faces, I am apt to persuade myself, that God Almighty, in making so vast dissimilitude, and in that distribu-

tion of His several donatives among individuals of the same species, intended thereby to accommodate mankind to a civil life ; it being no more possible for a society of men, or commonwealth, to be composed of members all of the like endowments of mind, than it is for an animal to exercise various functions with many organs all of the same part, shape, and fabric, or for musical harmony to result from a multitude of unisons. I am not ignorant, that even the best philosophers, when they contemplate the diversity of Nature's endowments, and the most probable reason thereof, modestly bound their curiosity with this clause, that *Nature delights herself in variety*, as well in this as in all other kinds. Nor do I deny what they here say, to be thus far true, that Nature, as being the art of God, can have no other perfection but what is derived from her Author and Governor, whose goodness cannot be terminated but in itself ; and, consequently, all emanations and effects of that goodness must redound to the delight of their first Fountain. Yet this, methinks, doth not oblige us to acquiesce in that consideration alone, without all reflection upon ourselves, there being perhaps some other reason or end of such variety, wherein mankind may be highly concerned. I conceive, then, that the Creator, having one eye directed to the pleasure redounding to him from the manifestations of His power and goodness, aimed with the other at some general benefit and favour to man, to whom He purposed to be singularly indulgent and gracious in all things ; and that, foreseeing how much more securely, commodiously, and happily, men might live in *societies*, than single and dispersed as wild beasts, he ordained this great diversity of *ingenies* among them, as a means to accommodate them to mutual assistance and association." The more narrowly we observe the operations of nature, and the wonderful adaptation of parts which it presents, the more strongly is the conviction forced upon our minds, that the universe is under the control of one intelligent, wise, and benevolent Deity.

In a series of essays on the connexion between the action of the brain and the general health of the body, published in the sixth volume of our Journal, we earnestly inculcated upon our readers the doctrine, that to secure the due performance of the mental functions, the brain must be kept in activity by regular and systematic exercise. Dr Charleton has some very apposite observations on this subject, and they furnish additional evidence of the accuracy with which he has observed the phenomena of human nature. "Some, of greatest hopes," he says, "too soon trusting to the native pregnancy of their mind, and desisting from lecture, meditation, and all other labour of the brain, as not only unnecessary, but also burdensome and expensive of time ; thereby clip their own wings, render them-

selves unfit for any generous flight, and ever after flag : So far from aspiring above others, they come short even of themselves, and suffering those *igniculi aetherei*, or celestial sparks of wit, by which they were in youth actuated, to languish and go out for want of industry to fan them, they degenerate into a barren dullness, so much the more difficult to be overcome, by how much the longer ere acknowledged. Whereas *others*, conscious of their native imbecility, endeavour with labour and sweat to acquire what the austerity of nature denied them ; and by continual culture of study, and seeds of good discipline, so enrich the field of their understanding, that at length they exceed in fertility not only their former selves, but others also to whom nature hath been much more bountiful. By which it is manifest, that the proper remedy for this obstruction, that not seldom brings an atrophy or defect of nourishment upon the best tempered wit, can be no other but constant study and meditation, by which the faculties of the mind are exercised and kept in vigour." He recommends, however, that men should not "confine their cogitations within too narrow a compass, by impaling their curiosity upon notions, though perhaps of great subtlety in speculation, yet of little use in the occurrences of life ;" and "prescribes study as a daily exercise, not as their sole employment." At the same time he prudently cautions men of "fine wits" against injuring their brain by inordinate study, their spirits being "prone to expense or exhaustion upon continued intention of the mind, nor capable of reparation unless after due repose and pleasant divertisement. Again," he continues, "not only the labour of these etherial wits, but even their relaxation and leisure, is therefore precious ; because no sooner are their brains at liberty, but they acquire new vigour, and their acuteness, spontaneously ranging abroad, brings in fresh hints, and replenishes them with serious reflections and useful cogitations ; as rich ground, when left awhile fallow, of its own accord puts forth abundance of excellent plants, in nothing inferior to the best cultivated gardens. This seems pathetically expressed in that apophthegm of Cosmus de Medicis, the politic founder of the flourishing Dukedom of Florence. When in a morning he had lain long in bed, as wholly resigned up to an incurious repose, one of his favourites coming into his bed-chamber, salutes him with this compliment : 'Sir,' (said he) 'where is Cosmus the Great, to whose vigilance, as to a pilot, we have all intrusted the conduct of our state ? Are not his eyes open at high noon ? I have been abroad some hours since, and dispatched much business.' The Duke smartly returns,—'Boast not your diligence thus, Sir ; my very repose is more profitable than all your pains and industry.' This is a pleasant exposure of the error of those who reckon the consump-

tion of the "midnight oil," a necessary preliminary to eminence in learning or science, and who stint their brains of the repose without which its functions cannot be effectively performed*.

These extracts are sufficient to show, that Dr Charleton possessed an intellect of very considerable acuteness; indeed we have seldom met with so many sound remarks on the human mind, proceeding from an author who was not a phrenologist. The present work undoubtedly contains the utmost that was known concerning the variety of human character, before the time of Gall: the fact was certain, but philosophers had not found its cause; and down even to the present day, we are not aware that any other than the phrenological theory has been offered to the public. The varieties of intellectual character among men, says Mr Stewart, present a very interesting object of study, which, "considering its practical utility, has not excited, so much as might have been expected, the curiosity of our countrymen," (*Dissert.* part ii. p. 198). A writer, also, in the *Edinburgh Review*, referring to the varied manifestations of the human mind in different parts of the world, acknowledges that "there are many circumstances in the institutions and destiny of a people, which seem to arise from original peculiarities of national character, of which it is often impossible to explain the origin, or even to show the nature;" *Edin. Review*, No. 74. p. 494. And in a review of Oxley's *Journal of an expedition into the interior of New South Wales*, we find the following confession of ignorance:—"Why the New Hollanders are so inferior

* In connexion with this subject, we extract the following pithy remarks from Mr C. Turner Thackrah's instructive work on "The Effects of the Principal Arts, Trades, and Professions, and of Civic States and Habits of Living, on Health and Longevity." Longman & Co. 1831.

"The evils attendant on literary and scientific pursuits may be greatly diminished by means of a very simple though decided character. The quantity of study should be reduced. It should engage but a moderate and definite proportion of the day. Three or four hours I think enough for close reflection,—others perhaps would allow a longer period; but six hours certainly ought not to be exceeded; more cannot be employed with effect. We hear indeed of men reading or writing twelve or fourteen hours a-day. They may be at their books during this time, but I doubt their being engaged in study. The faculties cannot support such exertion. The mind and body require relief and alternation. Change is the character of the universe. Every thing has its rise, acme and decline; and man is subjected to this law, alike in his physical and intellectual character. The mind, long applied, loses its power. The ideas become confused, and invention ceases. The brain is then strained rather than exerted, and its work is aptly said to smell of the lamp. Let, then, the student bear in mind that, even without reference to health, long continued application of mind is unwise. He defeats his object by the earnestness with which he pursues it. Let him remember the remark of Pope Ganganelli,—"There is scarcely any book which does not savour of painful composition in some part of it; because the author has written when he should have rested." Alternation of pursuits affords some relief. But this principle cannot be a substitute for rest, still less can it be a substitute for muscular exercise in the open air."

to other savage nations, in the arts of life,—why they cannot catch fish like the New Zealanders;—why they do not catch large animals in traps, or shoot them with arrows,—why they are only elevated a few degrees above the animals which they cannot kill; we do not presume to conjecture;" *ibid.* No. 68. The phrenologist answers by exhibiting their skulls, indicating small general size of brain, and an extraordinary deficiency in the forehead, the situation of the intellectual organs.

NEW HOLLANDER.



It is worthy of remark, that Malte-Brun, in his *Universal Geography* (vol. i. p. 539), has adopted the phrenological explanation of these phenomena. After mentioning the differences of stature, hair, physiognomy, and colour, which different nations present, he adds that "the varieties in the form of the cranium or skull, seem to be of more importance," than all the others which he examines. He thinks it "impossible to assign to *every* passion, and to every faculty, a separate organ in the brain," but assents to the truth of the leading doctrines of Phrenology, by unequivocally admitting it as "certain, that men of great talents have the head more varied with bumps and protuberances than the multitude." The doctrine of *bumps*, as generally understood by the public, is disclaimed by phrenologists, though, when one propensity or sentiment is predominant, and in cases of partial genius, isolated eminences are undoubtedly found on the skull; and to this extent Malte-Brun's remark is correct. He adds, "Another fact is, that in those nations, the individuals of which most nearly resemble each other in character, and which appear to have been least mixed with other tribes, the skulls appear to have been cast in one common national mould. When we see the head of one Hindoo, we see the heads of the whole nation." This must be received with some limitation; for there are individual varieties in the forms of the Hindoo skulls, and considerable difference of course exists between the heads of one caste and those of another. "On the contrary," he proceeds, "in Europe, where the characters of individuals vary extremely, we find skulls of every form, even the most remote from those we reckon the regular shape." The truth of these observations will be rendered very obvious to any one who will take the trouble of inspecting the collection of the Phrenological Society.

It is much to be lamented, that travellers have hitherto paid so little attention to Phrenology, possessing, as they do, numerous and excellent opportunities of enlarging our knowledge of this interesting branch of science. *A change, however, is at hand.*

ARTICLE IV.

EDUCATION IN LILLIPUT.

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

LILLIPUT, the 12th of Dednuff, 15104,
(October 30th 1831.)

SIR,

ALTHOUGH the august and powerful kingdom from which I write, has not been visited by Europeans so frequently as many other remote countries, it has occasionally happened, of late years, that English vessels bound for Van Diemen's Land (as it is called), or employed in the South Sea Whale-fishery, have anchored on our coasts for the purpose of taking in fresh water, or have been driven hither by the fury of the winds. Possessing much leisure and a strong appetite for knowledge, I have always endeavoured to bring myself as much as possible into communication with the European mariners, and in this way have had the good fortune to acquire a tolerably accurate knowledge of the English language. By the aid, too, of the master of a ship which was forced by a storm into this neighbourhood about three years ago, I became acquainted with the letters of your alphabet, and have since become so proficient as to be able to peruse and understand with facility some books and newspapers which were left here when the ship departed. I happened lately to go on board the *Speedwell* whaler, which was anchored near the mouth of a creek about six *blustrugs* from Mildendo, the metropolis of this empire; and in turning over a small collection of the works of English authors, my attention was caught by a pamphlet with a yellow cover, which, on examination, I found to be entitled "The Phrenological Journal and Miscellany, No. XXIV." The term *phrenological* being new to me, I was led by curiosity to survey the contents of the book; and having opened it, an essay headed "Phrenological Analysis of Infant Education on Mr Wilderspin's System," immediately attracted my notice. I instantly read the treatise, and was not a little astonished to find that rational views of education exist among a people whom we in this part of the world have been accustomed to look upon as little advanced; in a moral point of view, beyond the condition of savages. In a note subjoined to the essay referred to, you have discussed the claims of various individuals to the honour of being considered the inventor of Infant Schools, and have come to the extraordinary conclusion that it is due to one Wilderspin, who is no doubt a countryman of your own. This decision, Editor, clearly shews that zeal for the honour and glor

has blinded your judgment, and deprived you of the impartial spirit by which your Journal appears to be otherwise distinguished. You cannot be ignorant, Sir, that Infant Schools, unutterably superior to those said to be "invented" by the above-mentioned Wilderspin, have existed in this kingdom during many centuries. According to our ancient records, they were instituted by the Emperor Megpud Hodoro Kric Whoobnoo Gob, about seven hundred years ago, with the assistance of the philosopher Vahoritil Quip Neydlabhintec, whose fame has gone abroad into all nations. These schools are described in the writings of Mr Lemuel Gulliver, an English navigator, who was cast on the shores of Lilliput, in the year 1699 of your era, (which answers to the 14971st of ours), during the reign of the most mighty Emperor Golbasto Momarem Evlame Gurdilo Shefin Mully Ully Gue. That author has given a most accurate account of the learning, laws, customs, power, and government of this ancient kingdom; and, as I am informed that his works are very generally studied in the universities and schools of Britain, it is obvious that nothing but the grossest ignorance, or the most narrow and contemptible jealousy, on your part, could have induced you to pass over in silence the undeniable fact, that infant schools have existed here, not only long previous to the birth of your Owen and your Wilderspin, but many ages before the Europeans had discovered that nature has bestowed upon children any understanding whatever. I shall put you to shame, Mr Editor, by quoting a passage from Mr Gulliver's "Travels into several Remote Nations of the World," part I. chap. 6. You will remark that our mode of education, not only of infants, but also of youth in general, is infinitely superior to any thing which you have it in your power to boast of.

"It is the opinion of the inhabitants of Lilliput," says Mr Gulliver, "that parents are the last of all others to be trusted with the education of their own children; and therefore they have in every town public nurseries, where all parents, except cottagers and labourers, are obliged to send their infants of both sexes to be reared and educated, when they come to the age of twenty moons, at which time they are supposed to have some rudiments of docility. These schools are of several kinds, suited to different qualities, and both sexes. They have certain professors well skilled in preparing children for such a condition of life as befits the rank of their parents, and their own capacities, as well as inclinations. I shall first say something of the male nurseries, and then of the female.

"The nurseries for males of noble or eminent birth, are provided with grave and learned professors, and their several deputies. The clothes and food of the children are plain and

ARTICLE IV.

EDUCATION IN LILLIPUT.

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

LILLIPUT, the 12th of Dednuff, 15104,
(October 30th 1831.)

SIR,

ALTHOUGH the august and powerful kingdom from which I write, has not been visited by Europeans so frequently as many other remote countries, it has occasionally happened, of late years, that English vessels bound for Van Diemen's Land (as it is called), or employed in the South Sea Whale-fishery, have anchored on our coasts for the purpose of taking in fresh water, or have been driven hither by the fury of the winds. Possessing much leisure and a strong appetite for knowledge, I have always endeavoured to bring myself as much as possible into communication with the European mariners, and in this way have had the good fortune to acquire a tolerably accurate knowledge of the English language. By the aid, too, of the master of a ship which was forced by a storm into this neighbourhood about three years ago, I became acquainted with the letters of your alphabet, and have since become so proficient as to be able to peruse and understand with facility some books and newspapers which were left here when the ship departed. I happened lately to go on board the *Speedwell* whaler, which was anchored near the mouth of a creek about six *blustrugs* from Mildendo; the metropolis of this empire; and in turning over a small collection of the works of English authors, my attention was caught by a pamphlet with a yellow cover, which, on examination, I found to be entitled "The Phrenological Journal and Miscellany, No. XXIV." The term *phrenological* being new to me, I was led by curiosity to survey the contents of the book; and having opened it, an essay headed "Phrenological Analysis of Infant Education on Mr Wilderspin's System," immediately attracted my notice. I instantly read the treatise, and was not a little astonished to find that rational views of education exist among a people whom we in this part of the world have been accustomed to look upon as little advanced; in a moral point of view, beyond the condition of savages. In a note subjoined to the essay referred to, you have discussed the claims of various individuals to the honour of being considered the inventor of Infant Schools, and have come to the extraordinary conclusion that it is due to one Wilderspin, who is no doubt a countryman of your own. This decision, Mr Editor, clearly shews that zeal for the honour and glory of your friends

has blinded your judgment, and deprived you of the impartial spirit by which your Journal appears to be otherwise distinguished. You cannot be ignorant, Sir, that Infant Schools, unutterably superior to those said to be "invented" by the above-mentioned Wilderspin, have existed in this kingdom during many centuries. According to our ancient records, they were instituted by the Emperor Megpud Hodoro Kric Whoobnoo Gob, about seven hundred years ago, with the assistance of the philosopher Vahoritil Quip Neydlabhintec, whose fame has gone abroad into all nations. These schools are described in the writings of Mr Lemuel Gulliver, an English navigator, who was cast on the shores of Lilliput, in the year 1699 of your era, (which answers to the 14971st of ours), during the reign of the most mighty Emperor Golbasto Momarem Evlame Gurdilo Shefin Mully Ullly Gue. That author has given a most accurate account of the learning, laws, customs, power, and government of this ancient kingdom; and, as I am informed that his works are very generally studied in the universities and schools of Britain, it is obvious that nothing but the grossest ignorance, or the most narrow and contemptible jealousy, on your part, could have induced you to pass over in silence the undeniable fact, that infant schools have existed here, not only long previous to the birth of your Owen and your Wilderspin, but many ages before the Europeans had discovered that nature has bestowed upon children any understanding whatever. I shall put you to shame, Mr Editor, by quoting a passage from Mr Gulliver's "Travels into several Remote Nations of the World," part I. chap. 6. You will remark that our mode of education, not only of infants, but also of youth in general, is infinitely superior to any thing which you have it in your power to boast of.

"It is the opinion of the inhabitants of Lilliput," says Mr Gulliver, "that parents are the last of all others to be trusted with the education of their own children; and therefore they have in every town public nurseries, where all parents, except cottagers and labourers, are obliged to send their infants of both sexes to be reared and educated, when they come to the age of twenty moons, at which time they are supposed to have some rudiments of docility. These schools are of several kinds, suited to different qualities, and both sexes. They have certain professors well skilled in preparing children for such a condition of life as befits the rank of their parents, and their own capacities, as well as inclinations. I shall first say something of the male nurseries, and then of the female.

"The nurseries for males of noble or eminent birth, are provided with grave and learned professors, and their several deputies. The clothes and food of the children are plain and

simple. They are bred up in the principles of honour, justice, courage, modesty, clemency, religion, and love of their country ; they are always employed in some business, except in the times of eating and sleeping, which are very short, and two hours for diversions consisting of bodily exercises. They are dressed by men till four years of age, and then they are obliged to dress themselves, although their quality be ever so great ; and the women attendants, who are aged proportionably to ours at fifty, perform only the most menial offices. They are never suffered to converse with servants, but go together in smaller or greater numbers to take their diversions, and always in the presence of a professor, or one of his deputies, whereby they avoid those early bad impressions of folly and vice, to which our children are subject. Their parents are suffered to see them only twice a-year ; the visit is to last but an hour ; they are allowed to kiss the child at meeting and parting, but a professor, who always stands by on these occasions, will not suffer them to whisper, or use any fondling expressions, or bring any present of toys, sweetmeats, and the like.

“The pension from each family for the education and entertainment of a child, upon failure of due payment, is levied by the emperor’s officers.

“The nurseries for children of ordinary gentlemen, merchants, traders, and handicrafts, are managed proportionably after the same manner ; only those designed for trades are put out apprentices at eleven years old, whereas those persons of quality continue in their exercise till fifteen, which answers to twenty-one with us ; but the confinement is gradually lessened for the last three years.

“In the female nurseries, the young girls of quality are educated much like the males, only they are dressed by orderly servants of their own sex, but always in the presence of a professor or deputy, till they come to dress themselves, which is at five years old. And if it be found, that these nurses ever presume to entertain the girls with frightful or foolish stories, or the common follies practised by chambermaids among us, they are publicly whipped thrice about the city, imprisoned for a year, and banished for life to the most desolate part of the country. Thus the young ladies there are as much ashamed of being cowards and fools, as the men, and despise all personal ornaments, beyond decency and cleanliness ; neither did I perceive any difference in their education made by their difference of sex, only that the exercises of the females were not altogether so robust, and that some rules were given them relating to domestic life, and a smaller compass of learning was enjoined them ; for the maxim is, that among people of quality, a wife should be always a reasonable and agreeable companion, because

she cannot always be young. When the girls are twelve years old, which among them is the marriageable age, their parents or guardians take them home, with great expressions of gratitude to the professors, and seldom without the tears of the young lady and her companions.

“ In the nurseries of females of the meaner sort, the children are instructed in all kinds of works proper for their sex, and their several degrees ; those intended for apprentices, are dismissed at seven years old, the rest are kept to eleven.

“ The meaner families who have children at these nurseries, are obliged, besides their annual pension, which is as low as possible, to return to the steward of the nursery a small monthly share of their gettings, to be a portion for the child ; and therefore all parents are limited in their expenses by the law. For, the Lilliputians think nothing can be more unjust, than for people, in subservience to their own appetites, to bring children into the world, and leave the burden of supporting them on the public. As to persons of quality, they give security to appropriate a certain sum for each child, suitable to their condition ; and these funds are always managed with good husbandry, and the most exact justice.

“ The cottagers and labourers keep their children at home, their business being only to till and cultivate the earth, and therefore their education is of little consequence to the public ; but the old and diseased among them are supported by hospitals ; for begging is a trade unknown in this empire.”

By inserting this letter in your Journal, you will perform an act of justice towards an injured people. Allow me to add, that were your countrymen to avail themselves of the example placed before them by this nation, in all that relates to the education of youth, some hope might be entertained of their approach, in some distant age, to that state of happiness and perfection by which *we* are characterized, and which has for so long a period rendered us the wonder and envy of the world.

I am, Sir, your humble servant,

BOLGOLAM RORI WYMP, LL. D.
President of the Academy of Mildendo.

NOTE BY THE EDITOR.—The foregoing letter has been handed to us by a gentleman, who states that it reached him by way of the Mauritius, but that he has not been able to learn how it was conveyed thither. We have great pleasure in giving it a place in our Journal, not only because it is in itself a curious document, and throws some light on the history of Infant Education, but also because it is the only intelligence from Lilliput, which, so far as we are aware, has been presented to the world

since the beginning of the last century. We humbly apologise to Dr Belgolam Boel Wymp, for having neglected to notice the claims of his countrymen, but assure him that inadvertence alone was the cause of the omission, and that nothing could be more uncongenial to the minds of phrenologists, than the mean spirit of jealousy, which he lays to our charge. He is mistaken, too, in supposing that we ascribed to "one Wilderspin" the honour of being the first projector of infant education; on the contrary, it is distinctly stated in the note referred to by the learned President, that "Mr Wilderspin *did not invent schools for infants*, but he did invent what are now called Infant Schools;" vol. vi. p. 421.

Now it is obvious from the account given by Gulliver, that the systems established by Wilderspin and by the Lilliputian philosopher Vahoritil Quip Neydlabhintec, are very far from being identical. In particular (to mention only one point), the circumstance of the children being entirely removed from their parents in the schools of Lilliput, shows that the two differ in a very material degree. With all respect for the superior wisdom of our pigmy brethren, we must in that particular give a decided preference to the system of Wilderspin; for we cannot believe that Nature, who has conferred on parents a strong desire for the society of their children, intended such an entire separation between them, as appears to be made by the Lilliputians. The practical and useful nature of the instruction given to the youth of all ranks by this renowned people, however, cannot be sufficiently admired; and, in an especial manner, the attention paid to the character and qualifications of the nurses, is beyond all praise. We trust that Europe will not disdain to follow the example of every "remote nation of the world," whose institutions are based upon reason, whether such nation be composed of Lilliputians, Patagonians, Philistines, or men of a Christian stature.

ARTICLE V.

PHRENOLOGY IN PORTSMOUTH.

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

SIR,

PORTSMOUTH, March 20. 1832.

DURING the last two weeks the science of Phrenology has excited considerable interest among the inhabitants of this town and neighbourhood, in consequence of five lectures given by Mr Deville of London. No sooner was Mr Deville's visit made known, than the opponents put forth in every way their objec-

tions ; but few of them sought information on the subject by attending his lectures, although, within my own knowledge, nine-tenths of these opponents knew little or nothing of the evidences upon which Phrenology is founded. Among other symptoms of opposition, an article appeared in one of our Sunday papers, *asserting*, in wholesale terms, the danger of entertaining the belief of such a science, and describing it as supported by gratuitous assumptions, and subversive of moral responsibility and free agency ! After these hostile efforts, Mr Deville kindly consented, at the request of the phrenologists, to give an open lecture, that the public might judge for themselves. On Tuesday the 6th of March, a lecture was accordingly given ; and although the weather was extremely bad, a numerous and very respectable audience attended, amongst whom I noticed several ladies. The effect of this lecture was highly gratifying ; and at its close Mr Deville invited any gentleman to test the truth of the science, by producing a skull, on examining which he would describe the natural qualities of the individual. The next evening he commenced his lectures to a very respectable and attentive audience. During the course, he answered, at considerable length, the various objections which have been urged against the science ; pointed out the proper method in which it ought to be studied ; adverted to the different forms of head which accompany different natural dispositions, and shewed the beneficial influence which it exerts upon the important subjects of education and insanity. He also exhibited several casts illustrative of the change which had taken place in the configuration of the heads of individuals, whose characters had, at the same time, suffered an alteration. The last two lectures were devoted to the functions of the organs.

Without entering into detail concerning the subjects treated by Mr Deville, I shall at once pass on to the very satisfactory termination of the above mentioned challenge. As no opponent thought proper to produce a skull, Dr Porter, a resident physician in this town, and a corresponding member of the London Society, was kind enough to do so. It was then handed over to Mr Deville, and the relative particulars delivered to Mr Harrison, publisher of the Hampshire Telegraph. Mr Deville then made some observations on the skull, and stated, that as there appeared some peculiarity of character, he would write an account of it at leisure. In the mean time, the following character, given by Dr Porter, from his own knowledge, and derived from a letter addressed to him by Mr Strickland, who had more favourable opportunities of observation, was left in the charge of Mr Harrison ; and the respectability of the parties is an ample proof that no communication took place between them.

*Opinion of Mr Deville as to the natural dispositions of the late
Peter Pass, from an examination of his Skull.*

"This is an individual that would have some difficulty to keep within the pale of the law. A knowing character, sarcastic, and with some disposition to imitate the actions of others,—he would be influenced by the lower feelings, his character partaking more of the animal than of the amiable, and shewing but little feeling for religion or morality; obstinate, self-willed, revengeful, with strong passions, and desperate if opposed;—not over scrupulous in appropriating to his own use the property of others; much addicted to female society.

"If he has had children he would not be a very kind parent. If they were not obedient he would be likely to act cruelly towards them. He is an individual that would become the leader of his party, such as a delegate in a mutiny, or captain of smugglers, being fond of command. He would be more likely to spend his time in public houses and with low society, than to move with respectability. Being a great talker, and a presuming, knowing, and cunning character, he would show some ingenuity, but more of cunning. To sum up, this is an individual who would have difficulty to keep out of trouble or a prison; and, perceiving by the jaws that it is the skull of an aged person, I consider him an old sinner and a criminal, and likely to lead others into trouble in company with him."

Character of Peter Pass, late a Convict under the charge of John Porter, Esq. M. D., as observed during life by him and Mr Strickland.

"An aged man, seventy odds; convicted five times; transported three times for seven years,—at last for life; insolent to the utmost, and incorrigible; intolerably cross; a most expert thief; thirty-seven years of his life had passed in gaols, hulks, and other places of confinement."

"CONVICT-HOSPITAL, ALONZO,
9th March 1832.

"SIR,—Peter Pass, late a convict, aged 76 years, was one of the most eccentric characters I ever have seen. He had been convicted several times, transported four times,—three for seven years, the last for life. He was deaf, horribly passionate, violent, and revengeful; not to be controlled,—not even by officers, nor with threat of punishment. He was a great liar, and a great thief. He would steal and conceal all he could lay his hands

on, and swear and strictly deny he had ever seen the article. He was very dirty in his person and habits, and suspected of unnatural propensities. He had a keen eyesight, though advanced in years, and was fond of telling and learning loose and improper language, and rehearsing his scenes of rioting and dissipation, and his thieving exploits. We are not acquainted that he had any regular trade or employment; he could neither read nor write, and was never content with his clothing or his mess, but would always snatch the one he thought the largest. He would carry his revenge for supposed injuries to a great extent, always threatening the lives of his fellow prisoners, and even making attempts at life. I have myself been often threatened by him, and violently attacked, and have been many times compelled to interfere when he has attacked others: he died of age and debility on the 18th February 1827. He did not seem to have any idea of a future state, and when reproved by me for swearing and using obscene language, he would fly in a most violent passion. I am, Sir, your obedient humble servant,

To Dr PORTER.

(Signed) JOHN STRICKLAND."

The foregoing papers were listened to with the greatest possible attention; and at the conclusion, the auditors gave testimony of their surprise and approbation, by long continued applause. Dr Porter confirmed the great accuracy of Mr Deville's statement, and pledged himself, in conjunction with Mr Harrison, that the papers had not been seen by Mr Deville up to the moment of reading them on that occasion.

That every consideration might be given to the objections of the opponents, a discussion was subsequently announced at the Mechanics' Institution on one of their lecture evenings, which Mr Deville consented to open. As soon as this intention was made known, great anxiety was manifested to obtain tickets of admittance from the members, and a considerable stir was excited among the anti-phrenologists. Accordingly, on Monday the 12th, at half-past 7 o'clock, more than 300 persons assembled, besides many who came after the room was completely filled and did not obtain admittance. Mr Deville stated his views in a speech, which occupied upwards of an hour, and was received by his hearers with every token of satisfaction. He was opposed by Mr Williams, who stated his objections in a most circuitous manner: they related chiefly to anatomy and religion. Dr Scott followed in favour of Phrenology, and delivered an excellent speech, which occupied more than an hour, in reference to the anatomy of the brain. The lateness of the hour then caused an adjournment of the question until the evening of Thursday the 15th, when Dr Scott resumed amidst the applause of an equally crowded audience. The learned Doctor now entered into the subject generally, and during the evening

gave some highly interesting remarks on the human mind, and adduced various theological arguments. Mr Griffen, in a very long and able speech, opposed the views of the phrenologists, and endeavoured to show that the science was unsupported by the principles of induction, and therefore could not be philosophically believed. He also started some theological objections to the opinions of Dr Scott, upon which a short discussion took place between these gentlemen, and Mr Griffen gave up his point from courtesy; in consequence of the contrary opinions being supported by the great majority of the audience. The Rev. Mr Neave also spoke against the science, but professed himself open to conviction, and declared his belief that the phrenologists could never explain or overcome the charge of materialism and fatalism. Mr Burridge and Lieutenant Sabine, R. N., next followed in support of the science. Mr Cooper jun. objected to the statement that the skull after a certain age could be altered in form, and endeavoured to prove from anatomy the impossibility of that phenomenon; but Mr Martell in a very clear and concise manner answered his objections. This discussion was closed by an explanation on the part of Mr Deville of the correspondence between the cerebral development and character of Thurtell, and by a reply from the same quarter to some of the arguments urged by the opponents.

In the foregoing statement I have endeavoured to adhere strictly to accuracy. I despise chicanery as a means of supporting a cause which needs it not; and, satisfied of my correctness, I subscribe myself, Sir, your very obedient servant,

J. RANKIN STEBBING.

We rejoice to learn from the foregoing communication, (which our limits have compelled us considerably to abridge,) that phrenology has excited so much attention in Portsmouth. As soon as educated men can be induced candidly to examine the evidences of the science, conviction of its truth is the necessary consequence; and the interest which public discussion creates is always attended with beneficial results. It is ludicrous to see the hackneyed objections of materialism, fatalism, and danger to religion brought forward at this time of day as subversive of the doctrines of Phrenology. The opponents would save themselves much trouble by perusing the answers which have been made, *usque ad nauseam*, to these objections during the last twenty years. Experiments such as that performed by Mr Deville, though not fitted to produce a philosophical conviction of the truth of the science, are certainly useful in so far as they stimulate individuals to investigate the subject for themselves. A similar feat, achieved by Dr Elliotson, the details of which will

be found in vol. iv. of this Journal, p. 258, drew from the Rochester Literary Club, on 15th February 1827, a unanimous resolution, "that the character given by Dr Elliotson, from the inspection of the skull, corresponds so exactly with the history of the individual, that it is impossible to consider the coincidence as the effect of chance, but that it is an instance which, if supported by many others, affords a strong argument of the truth of Phrenology."

By another letter from Mr Stebbing, dated 26th May 1832, we learn that a Phrenological Society has been established in Portsmouth, which, says he, "already boasts of thirty members. The first meeting took place on the 10th instant, James Scott, Esq. M. D., (the President) in the chair, when the society was denominated the Hampshire Phrenological Society, and various resolutions were passed. The meeting was adjourned that laws might be prepared. These have now been adjusted, and agreed to at a general meeting. The members meet on the first Thursday in the next month in furtherance of the objects of the society, and intend meeting at stated periods throughout the year."

We wish all success to this society, and beg to be favoured by Mr Stebbing, who has been elected Secretary, with occasional notices of its proceedings.

ARTICLE VI.

AN EXPOSURE OF THE UNPHILOSOPHICAL AND UNCHRISTIAN EXPEDIENTS ADOPTED BY ANTIPHRENOLOGISTS, FOR THE PURPOSE OF OBSTRUCTING THE MORAL TENDENCIES OF PHRENOLOGY. Being a Review of "Antiphrenology, or Observations to prove the fallacy of a Modern Doctrine of the Human Mind; by JOHN WAYTE, M. D. London: Longman & Co. and Simpkin & Marshall. Edinburgh: John Anderson Jun. June 1831.

THIS is an elaborate and able production. It is the work of a zealous and talented anatomist and physiologist, well known to the medical profession by his writings, and deeply conversant with Phrenology. The favourite direction of this writer's exertions has been to demolish the many and vexatious small positions in which the enemy has at any time established himself. This has often led him, in his zeal, to bring up an artillery which would have demolished giants, when he had only pigmies to contend with. The present work, extending to 194 closely printed pages, has for its subject the errors and iniquities of a Dr Wayte, who seems to have courted distinction, by republishing well nigh all the staple common-place objections to Phre-

nology, a hundred times refuted, and thereby bringing them all within the sway of the author's sledge-hammer. The author's taste for this kind of duty appears, from his manner of performing it, to be vivid. His "review" of Dr Wayte is a tremendous castigation throughout, and leaves the Doctor the likeness of any thing rather than of a philosopher or logician. It has furnished yet another proof of the invariable truth, that the most alert and forward tilts with Phrenology, while they fail in scathing the object of their attack, succeed in exposing the utter want of any philosophy whatever in themselves.

We shall make a few extracts.

It is a very true objection that phrenologists allot no organ to the converse of Philoprogenitiveness, namely, the attachment of the child to its parent. This of course figures in Dr Wayte's pages.

"We have just found Dr W. admitting that *one* of the thirty-five faculties is *unquestionable*; and thereby admitting the principle on which these faculties are discriminated. Forthwith, however, he resumes his raving, and fairly leaves us to guess what may be *his* interpretation of an 'instinctive feeling;' that it is peculiar and absurd, seems probable: 'but nature has endowed us,' he says, 'with another feeling equally undeniable, instinctive, and strong; namely, a *love of children or offspring for their parents*; yet the phrenologists have not afforded us any organ to answer it, and I challenge them to produce this feeling with any combination of their famed thirty-five.' Let us survey the varieties of illusion congregated in this brief extract. Phrenologists regard 'love of offspring' as an innate constituent faculty of the mind; and, in their system, place it among the propensities in the order of feelings; they also specify a particular portion of the brain as the organ used by this faculty in the exercise of its functions; they enumerate the manifold evidences which authorise them to distinguish the faculty and to specify its organ; and the induction from these evidences is, it seems, unquestionable. Dr W. adopts a different course; he asserts categorically, but never once attempts, by argument or induction, or evidence of any kind indeed, to give even plausibility to the 'gratuitous assumption,' that 'love of offspring for parents' is equally a primitive feeling as love of parents for offspring, and then blames phrenologists for not *affording* him an organ to answer it. Phrenologists, however, necessarily resign to nature the office of *affording* organs; they also readily acknowledge perfect ignorance of the way in which an *organ* answers a *feeling*; and having never advocated the Doctor's proposition, cannot be required to establish what they do not affirm. Hence there is evidently great impertinence in challenging them to produce a feeling which they *know not to be a primitive feel-*

ing; nevertheless, they will be quite ready to accept the 'challenge,' whenever the Doctor shall have proved as a matter of fact, that his 'feeling undeniable, instinctive and strong,' is actually a distinct faculty of the mind. With him also, 'fraternal love is another equally distinct, natural feeling; but,' he complains, 'they have given us no philadelphic organ, neither will any two or more combined produce it,'—the organ or feeling? Dr W. exercised little courtesy, but practised no injustice, in withholding a definition of his terms *distinct natural feeling*; he is most unjust, however, in first assuming that this natural feeling is *distinct*, and then imputing defect or error to phrenologists for not *giving* him an organ for a natural feeling which they do not pretend; and he has not endeavoured, to *prove distinct*. Neither is there much fairness in making it appear, by his contradiction, that they hold 'fraternal love' to be a *distinct feeling produced* by the combination of organs: with them, filial love and fraternal love are particular modifications of the Adhesive propensity; and, if this doctrine of theirs, with its foundations, shall be found erroneous, the error must be demonstrated by philosophical *proof*, not by the mere perverse gainsaying of their adversaries."

We may add to this answer the remark, that, as the parent does not need to be protected by the child, the love of children for their parents is left to the operation of Adhesiveness, Veneration, Benevolence, and Conscientiousness; and we may know from observation, that the dutifulness of children is in direct proportion to the degree of the above beautiful endowment which they possess.

The objection against Benevolence existing in the organization of a criminal is strongly urged by Dr Wayte. It is answered as follows:—

"Next, he garbles a half-sentence from 'Lect. VIII. *Lancet*,' and takes it for the subject of a stupid animadversion; thus, 'Moreover, when I read that 'we may *steal* from others, and *cheat* others, and yet be *benevolent*,' I am utterly at a loss how to reconcile such glaring contradictions and perversion of language.' There is no argument in this confession of incapacity, save that perhaps of arguing the confessor's deplorable ignorance of the history of man; and if the Doctor really be at a loss to reconcile what he mistakes for contradictions and perversions of *language*, he will find himself at a much greater loss to reconcile equally glaring contradictions of *conduct*. That the self-same individual may, at one time, steal—at another time, *cheat*—and, at another time, be *benevolent*—is an axiom deduced from universal experience. As one illustration of its certainty, out of a thousand others, Dr W. may study the character of Edward III. as a man, as a warrior, and as a king. This mag-

unanimous prince will, at one time, he found aggravating the enormities of an unjust aggression, by directing the pillage of Caen and the massacre of its inhabitants, 'reserving the jewels, plate, silk, fine cloth, and fine linen for his own share of the plunder;' and, at another time, generously allowing a crowd of unhappy persons—the 'useless mouths' of a beleaguered town—to pass through his camp, and even supplying them with money for their journey:—at one time, praising and rewarding the valour and energy of a French knight, by whom he himself had been twice beaten to the ground in battle, with the royal gift of a string of bracelets from the monarch's own hand, and with the prisoner's restoration to liberty without a ransom; and, at another time, relentlessly dooming to death the heroic citizens of Calais, and ordering them to instant execution, for no other reason than the exercise of a sacred and most chivalrous patriotism. Moreover, if the Doctor has a 'finely developed organ of Veneration,' and a 'belief in holy writ,' he must be taught by the story of the patriarch Jacob, to acknowledge that we 'may steal from others, and cheat others, and yet be benevolent.'

" 'By this phrenological dialect,' adds the Doctor elegantly, 'if we meet a person who has the organ of Benevolence fully developed (and whom we ought, in consonance with the true meaning of languages, to consider kind-hearted and *well-disposed*), we must not be at all surprised at his stealing our purse.' These prim phrases, besides comprising much fallacy, exemplify the hebetating ascendant of base ambition and bigotry. Be it remembered always, that phrenologists offer no rule whatever for predicting *actions*, nor any rule for predicting *dispositions* from the development of *one single* organ only: nevertheless, Dr W. would represent them as entertaining such pretensions; and, with this view, he gives a *conjectural* case, from which all the organic relations and the degree of mental cultivation are excluded. Now, one supposition is *proof* as much as another: if, then, we meet with a person who has the organ of Benevolence *fully* developed; who has also the organs of Firmness, Combativeness, Destructiveness, Acquisitiveness, and Secretiveness, *alike fully* developed; and who has the organs of Conscientiousness and the 'reflective intellects' *not fully* developed—ought we, by the same rule, to consider this person kind-hearted and well-disposed? Moreover, if we find the same person uninstructed by intellectual and moral discipline, and himself with a wife and children reduced to endure the pangs of cold, wretchedness and hunger—ought we to be surprised at his stealing our purse? We ought to know his mental capabilities and his danger; and, by hastening to mitigate his misery, to save him from the sacrifice of his innocence: the true phrenological spirit rejoices in the *prevention*, that of its despisers in the *punishment*, of crime."

Dr Wayte brings forward the hackneyed objection of the frontal sinus, which is answered with great minuteness by the author. He sums up his own remarks in the following valuable propositions:—

“1st, Like all bones of the same kind, that portion of the skull which includes the ‘disparity’ made by the frontal cavities, varies in thickness: such variation, however, is neither so great nor so manifold as to prevent our distinguishing the general law of its ‘development.’

“2d, When its organisation has not been disturbed by preternatural agency, the frontal bone, immediately above the nose, is nearly *two lines* in thickness by the 10th year of life; by the 15th, it is *two lines and a half*; by the 20th *three lines* almost; by the 40th, about *three lines and a half*; and by the 50th, it varies between three and a half and *four lines*; and; whether the bone retains its original cellular structure or has become hollow, this is the natural process, and these the ordinary degrees of its thickening, between infancy and the adult age.

“3d, Till late in life, this bone’s hollowiness does not enlarge the distance of its external surface from that of the healthy brain: sometimes after the tenth year, the space between its plates is greater when no cavity exists; at other times, it is less when a cavity has supervened: sometimes, a bony crest appears on the edge of the superciliary arch; this crest occasionally contains cellular texture, but most commonly is hollow; it can be distinguished by experienced observers; and, exclusively of this, the bone, whether hollow or solid, preserves the usual thickness.

“4th, During the foetal and infantile states, the Frontal Cavities do not exist; after the seventh year, they begin to be perceptible, and continue to enlarge gradually till the latest stage of life: the common gradation of their growth is certain, and the exceptions to it are not more numerous or important, than those exceptions which *prove* a general rule in any of the sciences or philosophy: by the tenth year, their horizontal diameter is scarcely *half* a line; by the fifteenth, it seldom exceeds *one line*; by the twentieth, it is rarely *one line and a half*; by the fortieth, it approaches occasionally to *two lines*; and after the fiftieth, it is about *two lines and a half* in extent.

“5th, These cavities result from a natural process; but the cause of their formation, and its mode, remain among the desiderata in physiology; they depend apparently on simple absorption of the interosseous cellular texture; and, with the progress of this absorption, their dimensions enlarge: not till life’s decline, does the bone’s internal plate recede inwards; it is quite improbable that its external table ever advances: were such a

process certain, it would prove an anomaly from the regular order of organization.

"6th, The frontal cavities may be wide, and their depth, nevertheless, not more than was that of the bone's primitive cellular structure: their horizontal diameter may be *one* line: and, at the same time, that of the frontal bone itself naturally not more than *two*; wherefore, the childish practice of poking these broad but shallow holes from underneath, with a bit of wire, can never reveal the true distance of the bone's external surface from the brain: finally, their deepness may be, and sometimes is, augmented by disease; and they have this much 'to do with old age,' that their greatest enlargement and old age are concomitant.

"7th, We found Dr Spurzheim admitting that the frontal sinuses interfere with the organs of Individuality and Size: this is the course after which the growth of these cavities usually proceeds: first of all, organic absorption gradually removes the cellular texture from between the tables of the frontal bone where it covers the organ of *Individuality*: next, this absorption extends to the region of *Size*; then, to that of *Form*; and then, in mature age, to that of *Weight* and the lower angle of *Locality*; rarely indeed, does it pass these limits of length and breadth, except in declining life and disease. Now, these successive formations follow, not an increasing dispartition of the bony plates themselves, but the removal only of their intermediate cellular structure; consequently, the bone's horizontal diameter or thickness receives no addition from this process of natural excavation. Since, therefore, the size of these cavities does not move the skull's external surface to a greater than its original distance from the brain before the prime of life, it is manifest that, until this period at least, phrenological observation on the frontal regions, may be conducted with all the accuracy admissible by a subject whereon vital action never ceases to operate: hence, in fine, although 'difficulties in the forehead' do occur, they never supervene before the positive certain recession of the bone's two constituent plates from each other—not the extinction of its diploe—has given the bone itself a growing degenerate thickness.—The frontal cavities very seldom ascend *an inch* within the bone; and, through the upper half of their space, their transverse diameter never exceeds the thickness of the bone's primitive cellular structure.

"8th, Such being the organization of the frontal bone *generally*, and such the *general* development of its central cavities, it is obvious that, *in the young and healthy head*, the distance of the bone's external surface from the corresponding peripheral surface of the brain, may be *generally* ascertained; and, consequently, that the existence and functions of the organs of Indi-

viduality, Size, Form, Weight and Locality, can be discriminated, till after the prime of life, by the phrenological process of deriving the elements of positive and negative evidence, from observation of the high and low development of parts. Be it therefore remembered, that phrenologists have always and explicitly declared *that* persons advanced in years or suffering from cephalous disease, do not constitute subjects of *precise* observation; *that* the observations, adduced by them in support of their organic discriminations, have in no instance been made on such subjects; and *that*, moreover, they have as explicitly declared their readiness, not only to rest the demonstration of the frontal organs entirely upon negative evidence, but even to admit a fundamental defect in their system, on being shown one single example of a young healthy individual in whom a *low* development of the organs of *Individuality, Size, Form, Weight and Locality*, is accompanied with the manifestations of *high* endowment of these intellectual faculties. Should it even, in fine, be conceded that the difficulties which, after mature age, occur in the forehead, were insurmountable, the fact would no more go to overturn the system of phrenological organology, than the insurmountable difficulties which still retain trisection of an angle and quadrature of the circle among the desiderates of science, go to demolish the certain principles of geometry."

For twenty pages from the 165th, the author introduces a dialogue between Dr Wayte and a phrenologist, the Doctor's part being quoted from his own work. To this clever composition we must content ourselves with referring.

We are anxious that this zealous, well informed, and able author, in his warfare with antiphrenologists, should treat their prejudices and ignorance, and even their perversities and obliquities, with greater forbearance, and shew more of that calmness which characterises and becomes the stronger cause. We should endeavour not to be angry with writers who are only manifesting an unhappy organization, which is punishment enough to its possessor, and who, in that manifestation, are confirming the truth of the science which they busy themselves in attacking. The noted borderer, Willie Armstrong, is said to have expressed his contempt for one adversary by turning to another in his presence, and saying, "*Thou* cans't make a man angry, *he's* nae man ava!"

This work appears to us to contain an answer to every objection which has ever been brought against Phrenology, and references to the pages of all the standard works in which the various topics have been discussed. It required only an *Index* to render it valuable to students, as a repertory of facts and arguments touching every controverted point in Phrenology. Its great value consists in its minute determined prosecution of every

cavil, misrepresentation, and argument, brought forward by the opponents. To the lovers of minute anatomising controversy, spiced with indignation and severity, it will be a treat; but it will prove less interesting to the reader, who is only commencing his studies, and desires as his first step to acquire simple information.

ARTICLE VII.

PHRENOLOGICAL DISCUSSION IN GLASGOW.

TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.

SIR,

GLASGOW, 25th April 1831.

AN interesting phrenological discussion lately took place in the Andersonian University, Glasgow, the substance of which I herewith transmit. It is calculated to shew that Phrenology is making some progress in the west of Scotland, and may therefore prove interesting to the readers of your Journal.

The discussion was opened by Dr Hunter, Professor of Anatomy in that University, a gentleman who has the merit of having more than once called the attention of the Glasgow literati and public to the "new philosophy." In a former effort, the Doctor confined his attention to the fundamental principles of the science, which underwent a full examination, and excited an animated and interesting discussion, which, I need hardly say, proved favourable to the interests of Phrenology. In commencing the present discussion, the essayist, after some introductory observations, proposed, 1st, To take a brief survey of the classification of the phrenological organs; 2dly, To examine more particularly a *few* of the phrenological organs, and especially those against which the greatest popular clamour had been raised; 3dly, To shew the importance of the science to medicine, from the light it sheds on the proximate cause, the symptoms, and the treatment of insanity; and, lastly, To demonstrate Phrenology to be an engine of great power in improving the moral and intellectual condition of the human race. I am sorry that no outline I could give would do justice to the essay. On the subject of insanity I thought the essayist most interesting, but can only refer to some ideas which he stated at the close of this part of the subject. He considered insanity to be not a disease, but a *symptom* of a disease, or of numerous diseases, and a symptom which can be removed only by removing that particular condition of the brain on which it de-

pends. Insanity, he stated, bears the same relationship to the brain that *irregularity of pulses* bears to the heart; and as the latter disease cannot be present without influencing, either directly or indirectly, the heart, so the mental manifestations cannot be affected without acting in a similar manner upon the brain. He illustrated the phrenological doctrine by comparing insanity to a central point, from which lines radiate in every direction. All the lines would have this in common, that they communicate with a central point, but each line would have a separate and independent existence. If one line only were affected, it would correspond with partial insanity; but if all the lines were affected, it would correspond with complete insanity. By substituting *organs* for lines, a clear idea, he said, would be obtained of the phrenological doctrine of insanity; of a doctrine which would enable us to explain all the attendant phenomena. The man who should attempt to investigate cerebral diseases without the aid of Phrenology, the essayist contended, would be as mad, or at least as unsuccessful, as he who should attempt to explore thoracic diseases without the aid of the stethoscope. He characterized Phrenology as the great *phrenoscope* or brain-explorer, and looked forward to the period, which he hoped was not far distant, when every medical man would know its power and delight in its practical application. After the essay, an animated discussion arose, in which Dr Scouller, Dr Brown, Mr Hunter, Mr Wilson, and Dr Hunter took part. The following is an outline of the debate:—

Dr Scouller, Professor of Natural History in the Andersonian University.—I have no doubt that ere twenty years roll over our heads, there will be very few phrenologists. I object not to theories, even though erroneous, if they are ingenious and amusing. When I read Milton's *Paradise Lost*, I see a certain grandness of conception; he enters into no details that disgust. If we look at the Koran, we see every thing done by precise measure. Some theories may have beauty to recommend them. When I read in Plato of eternal models existing in the Divine mind, or attend to Malebranche's doctrine of our seeing everything in the Deity, I perceive a beauty in these theories; but when we come to Phrenology, we find the compass and the rule without either truth or beauty.

I have also to remark, that the doctrine of the brain being the organ of the mind, has nothing at all to do with Phrenology. That was known to many of the ancients, although since their time this knowledge has been becoming more and more definite.

But the grand point of Phrenology is, that the brain consists of a number of organs indicating distinct faculties. This is the essence of Phrenology, and the point which ought to be combated. (Dr Scouller then alluded to what the essayist had said

about the comparative breadth in the skulls of carnivorous and graminivorous animals, observing that carnivorous animals required a large development of muscles, and hence the breadth spoken of; while in those that are graminivorous, such a powerful jaw is not required.)

Philoprogenitiveness and Amativeness become more and more developed as puberty approaches, and so do the bumps according to phrenologists; and they are quite correct. But let us hear the other party. If you look at a new born infant, its head seems a lifeless mass rolling in every direction. The infant has no power to move it; but the muscles become stronger, and are inserted into certain protuberances in the bone; and these are the bumps of Amativeness and Philoprogenitiveness.

I see some faculties omitted in this system altogether, such as the faculty of believing things whether we will or not,—believing, for example, in an external world.

As to the connection between mind and body, I don't take the brain as that mass of matter by which we think and feel, but I see the whole nervous system as an indivisible unity,—not only the brain but the spinal marrow and the nerves. An organ of Form and one of Colour they have placed in the head. I think I can render it probable that the organ of Colour is in the eye, and that, in the case of mind, it may not be transported from the brain, because it may be communicated to the brain by the retina. That cannot be disproved. But, further, some animals have no brain, and yet are sensible to form and colour, They have nothing but a number of ganglia. For example, star-fish; they are susceptible to touch. Therefore, my organ of Form may be in my finger ends as much as in my brain, for aught I know.

It has been said so often that the skull-cap preserves a parallelism between the outer and inner tables, that at one time I did not think of contradicting it; but what was my surprise on looking into the thing, to see that there is no connection between the external form of the skull-cap and that of the brain. We have often a depression externally exactly opposite a protuberance internally. Bichat, a French writer of great eminence, thinks also that the convolutions of the brain do not correspond to the outward plate, and agrees that there are sometimes elevations on both sides. Although the brain is the kind of isthmus between the mind and the physical world, wherever we see two different organs we see two different structures; but the convolutions are all one and identical, and there is no such thing as outlines or marks in the brain. The convolutions vary but little, and this is a very secondary thing in the brain. I see the nerves having a distinct structure when they have a distinct function to perform, and so with every thing else.

— *Brown, LL.D., Glasgow.*—The physiological part of the subject has been treated in an exceedingly masterly way by Dr Scouller. When we talk of the body as separate from the mind, I understand that we can see, and feel, and touch, the system of bones, muscles, and tendons; that they can be submitted to the senses. To that we give the generic name of Body. And when we talk of Mind, I understand it to mean the congeries of feelings and passions, and, in short, the things that we are made sensible of through our consciousness. The distinction I wish is this, that the body applies to the material part of our frame; it can be subject to the senses: The mind, however, is applicable only to the internal feelings. Now, it has always appeared to me, that the radical objection to the phrenological principle is, that it leaves out of view this mental part of our constitution, and that, instead of taking the compound nature of man, too much attention is bestowed upon the physiological part of his system. From what the essayist declared, I should have inferred that the mind was entirely subject to the animal part of our nature,—that the principle of motion or thinking, instead of resulting from the mental principle, resulted in fact from the corporeal,—that the feelings arise from the bodily organ. Now I understand the reverse of this, and I think the view stated leads directly to materialism. If you allege that the feelings spring from the different organs into which the brain is divided, then you have no mind at all separate from the bodily organs. In many parts the essayist made the feelings to spring from the bodily organ. I maintain the reverse—that a feeling is a mental state,—it is a condition of the unit, the mind; and this feeling is the condition of that unit separate from the condition of the bodily functions altogether. The author's was an ingenious essay, though founded in completely false and erroneous principles.

Dr Scouller.—I have one remark to trouble you with. They have mapped out the head into a certain number of functions, and they have said all these are simple. They have put none for Memory. The Doctor here made some observations upon memory, after which he remarked, that Phrenology might be adopted without its being supposed to have any tendency to materialism. It is adopted by clergymen who have no idea of being materialists, or of the study leading that way.

Mr. William Hunter, Professor of Logic in the Andersonian University.—Regarding the metaphysical part of Phrenology, of which only I speak, I believe that it contains all that is sound in the writings of Reid or of Brown. I conceive that Dr Welsh has fully proved this. We know that the early division was into the Understanding and the Will; the second was into the Un-

derstanding and the Active Powers. In the third, the Will was divided into Sentiments, Passions, and Appetites. Brown divides the emotions into the Immediate, Perspective and Retrospective. These correspond directly with the Propensities, the Sentiments, the Knowing and the Reflecting Faculties. I believe that if metaphysical Phrenology were part of our system of education, it would be a great benefit to society, for it views man not only as an intellectual being,—but also as a physical, an organic, an intellectual, and a moral being, and examines the different relations which subsist among these different orders of powers. In this it is superior to any system of intellectual philosophy that exists. It proves, first, that the physical, the organic, and the moral laws are universal and unbending in their operation; that they are in harmony with the constitution of man; that obedience to them is always attended with its own reward. We then find that man is viewed as a physical and an intellectual being,—that the relation in which he stands to the external world is clearly pointed out. The next thing I allude to is the division of mental phenomena into the lower propensities, moral sentiments, and intellectual powers. Phrenology is useful in this respect. I do not speak at present of cerebral development of particular appetites, thoughts, or of emotions,—I speak merely of the metaphysical part of it. It is the design of Phrenology to impress on our minds that our propensities and lower sentiments must be under the guidance of moral sentiments, else by our constitution we feel most uneasy; and I conceive were this doctrine introduced into schools, great benefit would ensue,—people would see the necessity of attending to the organic laws of creation. It is impressed on the minds of youth, that if they exercise the intellectual laws of their nature little more is required; but Phrenology points out more,—that they must exercise also the corporeal and affective functions, according to their own laws; and that these laws and powers are in harmony with the constitution of nature and of man. I have been much delighted with the very perspicuous, and in some parts elegant, diction of the essayist. I am sorry I am not qualified to give an opinion on the physiological arguments of Dr Hunter. I see no tendency to materialism in Phrenology. The phrenologists do not assert that the mind is material. When we look to snow, we know that a change is produced in the mind; we have a notion of snow. Now what is the intervening step between the sight of the snow and the notion of snow? Is it not an affection of the optic nerve? Shall we infer, therefore, that the mind is material?

— *Brown, LL. D.*, in continuation of his former speech.—
Man is said to comprise three natures; first, the Vegetative;

second, the Animal; and, third, the Intellectual. Over the first of these man has no control: he grows up and decays, and seems as a vegetable, without having any control over himself. The second part, which he has in common with the lower animals, his mental powers have some control over. Aristotle's theory is founded on this. I think this division is possibly as good as any since. The phrenologist says, I can explain the varieties of the mental character. The brain, instead of being a single organ, and acting in common with the whole mind, is divided into a set of organs, and when we ask where is the proof of this, the essayist says the anatomist cannot see any distinction. You cannot divide one organ from another with the scalpel; but neither can you see an anatomical distinction between the optic and the auditory nerve. If, again, we come to consciousness, we cannot be conscious of any such distinction. I would ask, then, where is the evidence? Why, we are told that when we find a particular faculty strong, we find a particular part of the brain swelled out in that individual. We are told that that is not the fact by others, who say there is no proof, nothing but mere assertion. As to the coincidence stated by the last speaker, it is easily accounted for. Men have been conscious, and had strong imaginations and powerful memories in all the varieties of mental states and conditions. This fact that they found upon, is no proof for the solidity of the system they have pressed into their services, without having any ground for doing so. Phrenology is a mere innovation in language. It is calling lust by another name. It is giving to old passions new denominations; but as to the feelings of which the mind is susceptible, the different passions that have actuated men in all ages, there was nothing left for phrenologists to discover. The question is just a mere question of fact. Is there any proof brought forward that the mind acts by a variety of different organs? I think there are a great many facts that shew that the state of the mind does not depend on the brain. Look to the effect of the stomach and liver. If memory attaches to every mental organ, as they say, then explain how it happened that the disease in this man's stomach and liver, to which I have referred, happened to affect all his memory, not the memory of one single fact, but the memory of all he ever knew? His memory completely deserted him. The state of a man's mind depends very much on the state of his stomach. To be sure it may be said that this state of the stomach affects the brain also; and that the disease communicates directly to the mind through the brain; but of this there is no evidence.

Dr Scouller.—There is a very remarkable thing in regard to Phrenology, that it places all these different functions in parts of the brain, which are as identical in their appearance as drops of

water. In their intimate anatomical structure, the convolutions are everywhere the same. Some parts are very different in their structure, as the pons Varolii, yet let this be left out of account.

The great charm of Phrenology is the feeling of the head. Many have speculated on the brain, and every one has given opposite opinions; and what do we infer from all this, but that they know nothing about it? Wherever there is a different structure I would admit a different function, but never till that be proved. We know nothing whatever of the functions of the convolutions or of its several parts.

Mr Wilson.—This gentleman spoke against the tendency of Phrenology to materialism. Admitting the brain to be the organ of mind, or to be a congeries of organs, leads neither, as far as I can see, to materialism nor immaterialism. Suppose we say the ear is the organ of hearing, we do not say that hearing is material. When we say the brain is the organ of mind, we do not say that the brain is mind itself. He says we have no consciousness of any of these organs being put in action. We have no consciousness, Sir, of the action of any of the organs of the body. We have no consciousness of the way in which the nerves operate, all we know is from observation; neither are we conscious of the way the muscles contract, though we are able to infer their contraction. Let not the want of consciousness, then, be any objection to Phrenology. It is said there are no differences of structure: we can find no differences of structure between the organ of Caution and any other organ. This is no argument at all. There were no differences found between the different nerves till Charles Bell discovered them. So this concludes nothing against Phrenology. Dr Scouller has brought forward physiologists that have not been phrenologists, although they experimented upon the brain for a whole lifetime. This is nothing new. It is not to be expected that old philosophers and teachers will do away with the whole of the steps by which they have attained their eminence. This has been the way with every thing. If we look at the history of Newton, and see the way that his theory was brought forward, though supported by many facts and observations, we shall see that it met with a host of opposition, and it was thirty or forty years before it was established in the school of Cambridge, where it made its first appearance. The same might be said of the discovery of the circulation of the blood by Harvey. So Dr Scouller's objection has no weight. Every thing must be tried by reason, not by men's opinions.

The Essayist.—I am sorry there are absent to-night, probably in consequence of the epidemic which has appeared among us, some medical friends who are more able than I am to advocate the cause of Phrenology. Had these gentlemen been pre-

ment, you would have heard from their own mouths the confession, that they attempted to sneer down Phrenology last year, but are now, I am happy to say, the most zealous advocates of the system. When we look now at our own University, we find all the Medical Professors phrenologists, probably with one single exception; whereas last year I had the honour of being supported only by one. Since that time, their minds have been opened to the truth of the science. One of the gentlemen who addressed you this evening, our able Professor of Logic, who is entitled, from his situation, to give a decided opinion, is so convinced of the superiority of the new doctrine, that he has introduced it into his class. Here is one, then, who examines things cautiously and carefully, and though Dr Scouller has stated that in twenty years Phrenology will scarcely be, upon what principle can such a conclusion be drawn? Is the system actually falling into disrepute? Is it not rather flourishing in almost every quarter in the world? The best medical periodicals of the day are in favour of it. Need I mention Johnson's *Medico-Chirurgical*, the most interesting and useful *Quarterly Journal* in this country; *The Medical and Physical*, monthly; *The Lancet*, weekly; and though last, not least, our own *Glasgow Medical Journal*. We have Phrenological Societies, too, in many places, all working a slow but sure effect on the public mind. Is this like a retrogradation of Phrenology? Contrast the dreary prospects of Phrenology when Dr Spurzheim first visited this country, with the bright sunshine of the present time, and say, Sir, if Dr Scouller's evil bodings are likely to be realized. Is it likely that a doctrine which, in a few short years, has penetrated into every quarter of the world, which has sprung up in almost every city, and which has admirers, I might say, in almost every house, should in twenty years be unknown and forgotten? I would only request Dr Scouller to turn his eyes to Paris, and say if it is probable that a doctrine which could induce 120 individuals, eminent for their talents and station in society, to stand forth in its defence, should be forgotten in a few years? In the Parisian Phrenological Society, newly formed, the names of sixty physicians appear, many of them well known to science and to medicine. Phrenology is a science founded in truth, and what reason have we to doubt that it will ultimately be triumphant? The arguments adduced against Phrenology this evening have been of the most futile kind, and have been so frequently overturned, that I am almost disposed to treat them with the contempt they merit. By doing so, I might injure the cause I have chosen this night to advocate. I shall therefore attempt once more to place the subject before the opponents of Phrenology in its true light. Dr Scouller sees no beauty in the phrenological system; it is not sufficiently poetical for him; it is not like Milton's *Paradise*—

Lost. The Doctor is an admirer of sublime flights of poetry, but simple facts have to him no attraction, and, unfortunately for Phrenology, it can boast of nothing but facts. Had Phrenology been a poetical rhapsody, we might have calculated upon a convert in my worthy friend, but would it have received the support of those who prefer facts to fictions? Had Dr Scouller opposed Phrenology, because it appeared to him inconsistent with experience, we know how we would have dealt with the argument; but when he opposes it because it wants the sublimity of Milton's *Paradise Lost*, we can only feel inclined to leave him in the full enjoyment of the sublime idea.

When Dr Scouller opposes Phrenology, because it rests on the principle that the brain is a congeries of organs, I can discover an argument which is tangible, and which deserves consideration; and it is the strongest argument, I will admit, which can be brought against the fundamental principles of the science; but after the light which observation sheds upon the subject, we can discover nothing inconsistent with Phrenology in the structure of the brain. The brain is formed of fibres which extend from the medulla oblongata to the convolutions. Indeed, the convolutions are formed principally by these fibres; and as the fibres of each convolution are distinct from those of every other, there is nothing inconsistent with reason in supposing that the fibres of each convolution may have different functions. Dr Scouller says they are as like each other as drops of water, and that we ought not to consider them as distinct organs, without a palpable difference of structure. Can Dr Scouller tell the difference in structure of arteries that secrete bone, and arteries that secrete marrow; or has he yet been able to point out the difference of structure in nerves of motion and nerves of sensation? It is very probable that a difference exists in all these; but the points of dissimilarity have hitherto escaped observation, and even when they are discovered, they will probably be less marked than the differences of form, which every one but Dr Scouller admits to exist in the convolutions of the brain. It is quite amusing, Sir, to observe the flounderings of the anti-phrenologists in their eagerness to oppose the system; and the flounderings and contradictions of Dr Scouller have been eminently conspicuous. At one part of his speech, Dr S. maintained that the nerves of the senses differed in structure, and therefore he viewed them as different organs, and in the next breath laid it down as a principle, that the brain, spinal marrow, and nerves formed an indivisible unity, through which unity our whole mind was manifested. I have already replied to the first of these positions, and the other is so obviously absurd as scarcely to require confutation. Instead of the nervous system being an indivisible unity, it is an assemblage of unities, each of which has a determinate function. The discoveries of Sir C.

Bell lead decidedly to this conclusion. Has not Sir Charles shown that the motive, sensitive, and respiratory nerves are totally independent of each other, in origin, course, and distribution; and that the function of one of these sets of nerves may be injured or destroyed, without necessarily affecting the functions of the others. Has this eminent physiologist not likewise proved that the different columns of the spinal marrow possess different functions? Where is the unity, then, of which Dr Scouller speaks? Every part of the nervous system must be considered as made for itself, else we must be prepared to admit the correctness of the old and confuted notion, that the spinal marrow is a *prolongation* of the brain, and the nerves *prolongations* both of the brain and spinal marrow. Had Dr Scouller entertained just views of the structure and functions of the spinal marrow and nerves, his mind would have been prepared to perceive the truth of the phrenological doctrine. He would then have argued somewhat in this manner. As I see numerous nervous filaments which have a most striking resemblance to each, but whose functions are different,—as I observe various functions congregated in the spinal marrow, which presents such an apparent simplicity of structure,—I would assuredly draw a most hasty, if not an incorrect, conclusion, were I to maintain that the phrenological doctrine is inconsistent with the anatomical structure of the brain.

Flourens, Rolando, Serres, and others, have performed experiments on living animals, in order to discover the cerebral functions; and, as Dr Scouller has stated, their experiments are contradictory, and, by a process of reasoning peculiar to himself, he has, from this fact, drawn a conclusion hostile to Phrenology. But did it never occur to Dr Scouller, that these contradictory results prove only that the conclusions drawn are not to be relied upon: but were their conclusions favourable to Phrenology? Phrenologists do not expect that the functions of the brain can be unravelled by this mode of inquiry:—they appeal to observation; and will Dr Scouller attempt to show that their conclusions are inconsistent with observation? Dr Scouller has not attempted this. He has attempted to shew that some of their principles are groundless; and, most unfortunately for himself, has fixed upon the organ of Form, which, he says, resides in his fingers, "*for any thing he knows*." It is quite clear that the Doctor knows nothing of the matter, else he never would have made such an assertion. If the power of discriminating *form* resided in the fingers, it is obvious that the loss of the hands would be followed by a loss of this mental power. But individuals have been born without hands, in whom the power was strong. A striking case of this kind I related in the essay. Some years ago a female was exhibited in Glasgow, and many now hearing me must have had an opportunity of seeing her.

Although her arms were wanting, yet she could sew, embroider, and clip out with the scissors ingenious and fanciful devices, all of which she executed with her feet. Such facts as these are decisive against the view of Dr Scouller, and indirectly favourable to the phrenological doctrine.

Dr Scouller opposes Phrenology, because he finds, he says, no correspondency between the form of the skull and form of the brain. This is an argument on which Dr Scouller dilated last season, when the subject was discussed, and with considerable acrimony. He tells us now, that he has only lately examined the subject, and he found to his surprise, that there was no parallelism in the plates of the skull, and no correspondency whatever between the form of the brain and that of the cranium. I shall not speak, Sir, of the impropriety of any person opposing a doctrine without previous examination, as Dr Scouller, by his own concession did, when he *formerly*, in this place, opposed Phrenology. The objection was answered at some length in our former discussion. At present, time will permit me only to state, that the objection, though well-founded, would not affect the principles of Phrenology, but would only prove that difficulties existed in the *practical* application of the science: but Dr Scouller's statement is much exaggerated. The brain, it is well known, is formed before the skull, and the skull moulded, as it were, round the delicate organ. Till beyond the middle period of life, the form of the skull indicates the exact form of the brain: at least it indicates it with sufficient exactness for every practical purpose in Phrenology. If the brain be well-formed, the exterior of the head will exhibit a corresponding character; and if the brain be ill-formed, the phrenological developments can never be good. In opposing Phrenology farther, Dr Scouller has boldly stated, that some of the phrenological organs are formed by the action of muscles. Amativeness and Philoprogenitiveness are formed, he says, in this way; and, with characteristic consistency, the want of Constructiveness in carnivorous animals, or, in other words, the narrowness of their brain in that region, he attributes to pressure of the temporal muscle. This is surely a very simple and philosophical method of solving a difficulty. If an organ of the brain is very large, it is all owing to the muscles,—*they bring it out*; if an organ, on the other hand, be small, it is all owing to the muscles, Sir,—*they press it in*. But the fact is, that neither explanation is correct. Every brain has its characteristic form before the muscles are called into operation; the form of the brain, then, cannot depend upon the muscles.

In the *last* place, Dr Scouller has opposed Phrenology on account of its imperfections and omissions. He considers the want of an organ of memory a serious defect, and the want of an organ by which we believe in the existence of an external

world as an extraordinary omission. There is nothing new in the first of these objections. It has been answered again and again, and I feel surprised that Dr Scouller should have adverted to it. Memory is not a fundamental power of the mind, else he who possessed a strong memory for any one thing, would necessarily have an equally strong memory for *every* thing; but this is well known not to be the fact. A man may have a strong memory, for example, for words, and not for numbers,—may have an excellent memory for numbers, and feel it impossible to remember musical sounds or colours. Phrenology shews that memory enters into the constitution of every intellectual faculty, and if a faculty be naturally powerful, the memory connected with that faculty will be in a corresponding state, and *vice versa*. Now, Sir, is not this a much more consistent and philosophical view of the subject than that of the old metaphysicians, of which Dr Scouller is so fond?

The other objection of Dr Scouller, I believe, has, as far as I know, the merit of originality, but indicates a total ignorance of the phrenological system in the person who uses it. The external world is made up of individual existences, and does Dr Scouller maintain that the phrenological system admits of no powers by which we form ideas of these existences? Had Dr Scouller been acquainted with the science which he reprobates, he would have known that there is such a faculty as Individuality, a power which leads necessarily to the belief in question.

The second gentleman who addressed you, Sir, confined himself to the metaphysical part of the subject, and objected to Phrenology, because he says it leads to materialism. I am sorry that the gentleman should have had recourse to such an argument,—an argument which savours so much of ignorance and bigotry. It is an argument, besides, which is addressed more to the passions than the understanding of man; and in a philosophical discussion such as this, the intellect should be enlightened before the passions are moved. It is a gratuitous and unfounded assertion, that Phrenology leads to materialism. Phrenologists pretend to know nothing of the mind. They do not assert that it is material. They maintain that its powers are evinced by material organs, and that the more the material organ is developed, the stronger is the mental manifestation or power. Phrenologists draw a line of distinction between a material organ and the agent which uses that organ; and they maintain, that what may be predicated of the one is by no means applicable to the other. It is the antiphrenological doctrine that leads to materialism. For nobody but an antiphrenologist speaks of a "mind diseased." Can a disease affect an immaterial existence? This cannot be proved, and the admission that it could, would lead to most appalling conclusions;

for it is perfectly obvious, that if the mind can become diseased, it may die.

I have thus attempted to answer the principal objections which our opponents have this night brought forward against Phrenology. Should my answers appear to any one unsatisfactory, I would beg that he would attribute this rather to the weakness of the advocate, than to the imperfections of the system which he has attempted to support.

After apologising for trespassing so long on the patience of the audience, Dr Hunter sat down, and the meeting closed with apparent satisfaction. J.

ARTICLE VIII.

ON THE CHARACTER AND CEREBRAL DEVELOPMENT OF THE INHABITANTS OF CEYLON.

IN the year 1827, the Phrenological Society received a very valuable donation of nine Ceylonese skulls, from Dr Charles Collier, deputy-inspector in the medical department at Colombo; and, shortly afterwards, nine others were received from the Rev. Mr Lyon, who was at that time resident in Ceylon. The possession of so large a collection of native crania, has put it into our power to compare the configuration of brain which they indicate with the mental qualities generally ascribed to that people; ample details of which have been published by travellers. The authors from whom chiefly our information is derived, are Knox, Cordiner, Lord Valentia, and Dr Davy; all of whom enjoyed excellent opportunities of observing what they relate. Knox was an English sailor who was wrecked on the coast of Ceylon in 1660, and remained a captive among the inhabitants for twenty years. Mr Cordiner resided there from 1799 to 1804, as chaplain of the garrison of Colombo, and principal of the schools in the island. Lord Valentia visited the country in 1803; and Dr Davy remained in it from August 1816 to February 1820. The accounts given by these travellers are in general consistent, and Cordiner speaks in high terms of the accuracy of Knox.

The inhabitants of Ceylon may be divided into the aboriginal race, and the naturalized foreigners. Of the former, who are called Cingalese, the inhabitants of the interior exclusively consist. Most of these live apparently in a primeval state. Their habitations are huts made of mud or of the leaves of trees, and are destitute of every species of furniture. Fruit is their principal article of food; water almost their only beverage; and they wear no clothing except a piece of cotton cloth folded

round the waist. The greater part of the naturalized foreigners are Malabars and Moors. The Malabars are confined chiefly to the northern and eastern parts, while the Moors are scattered over all the maritime districts. The Kandians form a subdivision of the Cingalese, and have now been brought under the British dominion. They are confined to the centre of the island, and no part of their territory was less than six miles from the sea. A distinct tribe of wild people, called Vedahs or Bedahs, inhabit the mountains towards the eastern part of the country. "The Cingalese in general are of a slender make, and rather below the middle stature. Their limbs are slight, but well shaped; their features regular, and of the same form as those of Europeans *." According to Lord Valentia, "the expression of their face is fine; their skin nearly black; and their hair, of which they are very proud, is long, black, and not coarse †." "The form of their head," says Dr Davy, "is generally good, perhaps longer than the European, a peculiarity, according to Dr Spurzheim, of the Asiatic ‡." The following is a list of the nineteen skulls possessed by the Society.

Nos. 1, 2, & 3; apparently the skulls of children. It is not mentioned to what tribe they belong.—No. 4. Skull; tribe unknown.—No. 5. Vedah tribe. This skull is sawn open. It is thicker than usual, is of a coarse texture, and exhibits a large frontal sinus.—Nos. 6. & 7. Vedah tribe.—Nos. 8. & 9. Tom-tom boys, or drummers.—No. 10. Malabar, from the coast.—No. 11. Cingalese.—No. 12. A Cingalese, who was born and lived near Colombo.—No. 13. Cingalese.—No. 14. Kandian.—Nos. 15. & 16. Cingalese.—No. 17. Moor.—No. 18. Skull of a woman said to have been of Dutch descent.—No. 19. Skull of Kapittipola, Dissave of Ouva. This Kandian chief is characterized by Dr Davy as an active, enterprising, ambitious, and unprincipled man; (p. 328). He was actively engaged in trying to subvert the British power in Ceylon, during the insurrection of 1817, but was surprised by a detachment of troops, and executed at Kandy on 25th November 1818.

The first nine of these skulls were presented by Mr Lyon, and the remainder by Dr Collier, except No. 19, which was acquired from Mr Marshall.

Almost all of them are fully developed in the region of the intellectual organs, and, in this respect, they are vastly superior to the heads of the New Hollanders and several other savage tribes. In general form and size they closely resemble those of the Hindoos, and the characters of the two nations are very si-

* Cordiner's Description of Ceylon. London, 1807, vol. i. p. 94.

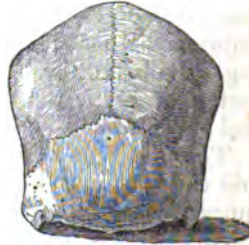
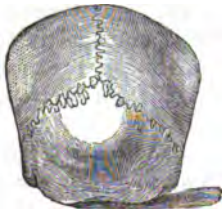
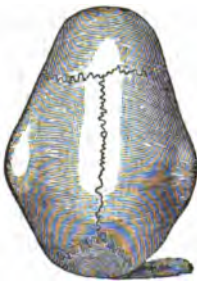
† Voyages and Travels, &c. By George Viscount Valentia. London, 1809, vol. i. p. 305.

‡ An Account of the Interior of Ceylon. By John Davy, M. D. London, 1821. This work contains a good engraving of a Ceylonese skull.

milar. The skulls of both are in size considerably below the European standard; those of the Vedahs being peculiarly small. We subjoin three views of each of Nos. 9. and 14.* The other skulls present slight individual differences of form; but nearly the whole of them agree in the leading features to which we shall allude.

No. 9. TOM-TOM BOY.

No. 14. KANDIAN.



The following are the measurements:—

* Great attention has been paid to accuracy in the execution of these engravings. The scale is reduced to one-fifth; that is to say, the lineal dimensions of the actual skulls are five times greater than those here represented. This is a somewhat larger scale than that on which *skulls* have hitherto been represented in this Journal; but we have adopted it as for various reasons preferable to the other, and intend to adhere to it with scrupulous exactness in future. For the drawings of the Ceylonese skulls we are indebted to Mr Harvey, a promising young artist in this city, of whose kindness we shall not fail to take farther advantage, for the benefit of our readers.—ED.

MEASUREMENTS.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
Individuality to Philoprogenitiveness,	6½	7½	4	4½	7	6½	6½	6½	6½	6½	7½	7	6½	7	7½	7½	7½	8	7
Ear to Individuality, ...	3½	4	4	4½	4½	4	3½	3½	3½	4½	4½	4½	4	4½	4½	4½	4½	4½	4½
..... Philoprogenitiveness, ...	4½	4	4	3½	3½	4	3½	3½	3½	3½	4½	4½	3½	4½	4½	4½	4½	4½	4
..... Comparison, ...	4½	4½	4½	4½	4½	4½	4½	4	4½	4½	4½	4½	4½	4½	4½	4½	5	5	4½
..... Benevolence, ...	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	5	4½	4½	5	5½	4½
..... Veneration, ...	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	5½	4½	4½	5	5	5
..... Firmness, ...	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	5	4½	5½	5	4½	5½	4½	4½
..... Self-esteem, ...	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½	5	4½	4½	5	4½	4½	4½	4½
Cautiousness to Cautiousness, ...	4½	4½	4½	5	4½	4½	4½	4½	5	5½	5½	5½	4½	5½	5	5½	5½	5½	5½
Secretiveness to Secretiveness, ...	5	4½	4½	5	4½	4½	5	4½	4½	5½	5½	5½	5½	5½	5½	5½	5	5½	5
Destructiveness to Destructiveness, ...	4½	4½	4½	4½	4½	4½	4½	4½	4½	5	5	5½	4½	4½	5	5	4½	4½	4½
Constructiveness to Constructiveness, ...	4	3½	3½	4	4	3½	3½	3½	3½	4	4	4½	3½	4	4	4½	4	4	4
Ideality to Ideality, ...	3½	3½	3½	4½	3½	3½	3½	3½	3½	4	4½	4	3½	4	3½	4	3½	4	4

Note.—The figure on the top denotes the number of the skull.

The most striking peculiarity of the skulls before us is the great preponderance in most of them of the organ of Cautiousness, and relatively moderate size of Combaticiveness and Destructiveness, especially of the former; and with this the character of the people is in strict accordance. We are informed by Mr Cordiner, that "the Cingalese are indigent, *harmless, indolent, and unwear-like*; remarkable for *equanimity, mildness, bashfulness, and timidity*." "An attempt was made some years ago," he adds, "to train a body of them as soldiers; but, *after great perseverance, it completely failed of success*. A life of military discipline proved in the highest degree *irksome and uncongenial to their habits*. They deserted in great numbers, and examples intended to terrify only stimulated those who remained to abandon the service. At length a sufficient number of recruits was obtained from the coast of Coromandel, and the corps of Cingalese was disbanded. In those regiments which are now called Ceylon Native Infantry, *there is scarcely to be found one native of the island*," (vol. i. p. 92.)

According to Knox, the Cingalese are "in danger subtle and crafty," and "in their dispositions not passionate, neither hard to be reconciled when angry *." Lord Valentia's account of a siege by the natives of a small fort called Chilow, is an amusing example of their military powers. "The fort," says he, "is the most trifling thing I ever beheld under that name. It consists of a ditch, in some parts three feet deep, with a rampart of earth that slopes equally both ways, and is about ten feet high, on the top of which is a row of hedge-stakes driven in close to each other. In the front of this, on the edge of the ditch, is a range of trees, with their branches placed outwards. This is a late addition; yet, without this, it *stood a siege against three thousand Cingalese*. They carried on their approaches very regularly, and at length brought their batteries so near the fort that they conversed with the garrison. Mr Campbell, who commanded, had with him but sixty Sepoys and Malays; *yet the enemy, who could see every thing, never attempted to storm the place*. He had no shot, and only a barrel and a half of powder. He was obliged to use pice (a small copper coin), of which he had six thousand rix dollars in the place, and to manage his fire sparingly, as he did not know when he might be relieved. He had no great occasion to fear in other respects, for not a man was killed on his side. His havildar told him there was no use in loading with ball. "Put in powder enough," said he, "*and the noise will be sufficient to keep them off*." Repeated offers of reward were made to the garrison, if they would give him up, but without effect. At length Captain Blackwall, with forty men, came to his assistance, by water, from Negumbo, and the Candian army *retreated with the utmost*

* An Historical Relation of the Island of Ceylon, in the East Indies. By Robert Knox, a captive there for nearly twenty years. London, 1681.

expedition. "The effect of the general defeat of the Candians," continues his Lordship, "has been the desertion of numerous families of the natives, who have sought protection in our provinces. Mr Campbell means, as soon as he can procure the assistance of a few Europeans from Negumbo, to beat up the quarters of six thousand natives assembled in the interior; *and such is the cowardice and military ignorance of the Cingalese, that he will probably effect this with one hundred men,*" (vol. i. pp. 327, 328.)

In almost every instance, the organs of Philoprogenitiveness and Adhesiveness are largely developed. The former, in particular, is very prominent. In some of the older descriptions of Ceylon, infanticide is said to be common in the island; but this Dr Davy ascertained to be a calumny. He says, "The care of the children is *almost equally divided between the parents*; and an infant is more frequently seen with its father than mother. *Mothers almost universally suckle their own children*, and for the long period of four or five years, either in part or entirely. *Amongst few people, I believe, are family attachments more strong and sincere.* A family is the focus in which all the tender affections of a native are concentrated. Parents are generally treated with the greatest respect and regard; *and children with extraordinary affection.* During the late rebellion, very many instances occurred of fathers voluntarily delivering themselves up, after their families had been taken. I have heard an assertion made, not at all compatible with the preceding statement, that the Cingalese sometimes expose their children. The result of my inquiries is, *that they hold the crime in abhorrence*, and that it is never committed, excepting in some of the wildest parts of the country; and never from choice, but necessity."—"Generally, they are attentive to their sick, especially their parents and children."

It will be observed, that Love of Approbation is very large in the heads of the Cingalese, and Ideality is fully developed; and accordingly we find that "they are a social, courteous, and ceremonious people, who attend most particularly to all their minute distinctions of caste and rank; while, at the same time, the man of rank is free from arrogance, and the poor man modest and unassuming."—"In courtesy and polish of manners, they are little inferior to the most refined people of the present day."—(Davy, p. 291). In the words of Knox, they are "in carriage and behaviour very grave and stately; in discourse courteous, but full of flatteries;" and, as Cordiner informs us, they are "extremely fond of parade and show, and willingly pay a considerable sum of money to government for permission to make a pompous procession through the streets and suburbs, accompanied with the music of pipes and drums." Their dresses, as delineated by this author, display considerable taste.

Lord Valentia says, "The Cingalese are distributed into many castes and subdivisions of castes. The higher of these are extremely jealous of their privileges, and severely punish those of the lower castes who presume to usurp them. A man, who ventured to cover his houses with tiles, without being entitled to that distinction, had it pulled down to the ground: by order of his superior; and a poor tailor, whose love of finery led him to be married in a scarlet jacket, was nearly killed at the church-door. The privilege of castes extends to the dress of females; and many are prohibited from wearing a petticoat below their knees, or covering their breasts. *Vanity is the predominant passion of the Cingalese; they are therefore continually attempting to dress above their condition, which occasions perpetual disputes.*"—(Vol. i. p. 303.)

Of their tranquillity and comfort, Mr Cordiner gives the following vivid description, which, though somewhat poetical, and perhaps a little too highly coloured, is worthy of being here transcribed. "The state of civilization and modes of life of these Cingalese who have not yet felt the influence of European manners, well accord with the most beautiful pictures that ever have been drawn of rural simplicity flourishing under a genial climate. Their wants are but few, and those most easily supplied. The habitations, even of the most indigent, wear an air of comfort. Every hut and every hamlet is surrounded with groves of large fruit-trees, of a most picturesque appearance. The verdure and the foliage, both lively and perpetual, soften the temperature of the air, and gladden the tranquil retreats amidst these blooming thickets."—(Vol. i. p. 103.)

There does not appear to be sufficient foundation for the statements made in some accounts of Ceylon, regarding the extreme licentiousness of the Cingalese; and, indeed, setting aside the authority of recent travellers altogether, we should have been led by the appearance of the skulls to doubt the entire accuracy of such reports; for the organ of Amativeness, though in some of them by no means deficient, is not generally developed in any extraordinary degree; and in several instances it is particularly small. "A great proportion of both high and low," says Cordiner, "live as regularly in the married state, as is usual in any other part of the world. A man is contented to possess only one wife, and seldom discovers any inclination to change her. Among those who live under the British government, and profess Christianity, instances of divorce are extremely rare, and a husband is not permitted to marry two wives. Even concubines are seldom found in the houses of the rich, and never in those of the poor, unless in the room of wives, when poverty induces such a connexion, instead of regular matrimony." (Cordiner, vol. i. p. 113.) According to Dr Davy, a plurality of husbands is here, as in Thibet, much more com-

mon than of wives. "One woman," says he, "has frequently two husbands; and I have heard of one having as many as seven." (Davy, p. 289.)

The moral sense of this people does not seem to be powerful. In most of the skulls the organ of Conscientiousness is deficient, with a full development of Secretiveness. "In their promises," says Knox, "they are very unfaithful, approving lying in themselves, but misliking it in others." "The natures of the inhabitants of the mountains and lowlands," he adds, "are very different. They of the lowlands are kind, pitiful, helpful, honest, and plain, compassionating strangers, which we found by our own experience among them. They of the uplands are ill-natured, false, unkind, though outwardly fair and seemingly courteous, and of more complaisant speech and behaviour than the lowlanders."

In the region of Benevolence and Veneration, the heads of the Cingalese are generally well filled up. Hence "they are extremely civil and hospitable to strangers, shewing an eager desire to oblige, and seeming to delight in the performance of good offices." (Cordiner, vol. i. p. 92.) Knox gives the lowlanders a similar character in the passage quoted above. The Cingalese are equally distinguished for piety, though their religion is tinctured in an equal degree by their inordinate Cautiousness. We are indebted to Dr Davy for a very full account of their theological opinions and ceremonies, collected, as he informs us, "chiefly at Kandy, in conversations held with the most enlightened and learned of the priests, and after a good deal of laborious inquiry to ascertain the truth and avoid error, on a subject particularly liable to misconception."

The Boodhists, as the followers of this system are named, do not, according to Dr Davy, believe in the existence of a Supreme Being, self-existent and eternal, the creator and preserver of the universe*. They appear to be materialists in the strictest sense of the term, and have no notion of pure mind or spirit. The most learned of them seem to consider life and intelligence as identical, and that they have their seat in the heart, are capable of passing from one body to another, and, like a flame, liable to be extinguished and totally annihilated. Gods, demons, men, reptiles, and even the most imperfect animalcules, they consider as similar beings, formed of the four elements,—heat, air, water, and that which is tangible,—and animated by life and intelligence. They believe that a man may become a god or a demon, and that a god may become a man or an animalcule; that ordinary death is merely a change of form, and that this change is

* Cordiner, however, says that they "believe in the existence of one supreme God." (Vol. i. p. 149.)

almost infinite, and bounded only by annihilation, which they esteem the acmé of happiness. "This," says Dr Davy, "is not a rational system, nor do its followers attempt to support it by reason. If you ask a reason for any assertion, you may receive in answer a dogma in Sanscrit or Pali verse; if you are not satisfied, you may be amused with an allegory; and if you still persist and urge explanation, the Boodhist will take refuge in the mysteries of his religion, and in our very limited capacities to attain knowledge and comprehend what is divine."

Farther; they are of opinion that the universe is eternal;—at least, that so far as they know, it neither had a beginning, nor will it have an end; but that it is composed of an infinite number of worlds, each of which is a likeness of the other. Every one of these they consider as a complicated system of heavens and hells, of continents and seas, of rocks and rocky circles, inhabited by mortal gods, demons and devils, and other strange varieties of fabulous beings.

"A rock, Maha-meru-parwate, they believe to be the centre of this system. Above this rock are twenty-six heavens, and under it, on which it rests, three rocks, the Trikoota, between which is the residence of the Asooras, the Asoora-bhawana. Under the Asoora-bhawana they have placed the residence of snakes, Nāga-bhawana; and under it a rock, Galpollowa, which rests, they believe, on water, which water rests on air. Round Maha-meru, they conceive, there are seven rocky circles; and round the whole world, a wall of rock, the Sak-walla-galla, all of which they believe to be separated from each other by seas. In the sea, between the seventh rocky circle and the wall of rock, they have placed four great continents, each surrounded by five hundred islands. Beneath this sea, one under another, they believe that there are eight hells, and round them a hundred and twenty lesser hells; and between every three worlds a single hell, common to the three. "With the details of this system," adds Dr Davy, "a learned Cingalese is perfectly conversant; as well and as minutely acquainted as with what relates to his village or family, and infinitely better than with the geography and history of his country and nation." Unfortunately, this observation applies with almost equal force to the schools and universities of Britain, where several valuable years are spent in the acquisition of knowledge bearing as little relation to practical utility as the Cingalese system of the universe.

The author then gives very full particulars regarding the Cingalese system of the universe, and the inhabitants of the different heavens,—gigantic gods of a red colour, and of such astonishing splendour, that the radiation from one of their fingers is equal to that of ten thousand suns;—other gods who have hair on their heads, but no beards; who eat, sleep, and have tangible

persons, yet without blood, flesh, or bone ;—snakes, shining like gods, and powerful enough to destroy the whole inhabitants of the earth by a single blast of their poisonous breath ;—men with faces of the shape of a crescent ; others with oblong visages ;—a land whose soil is of gold and silver, and whose horses and elephants have the power of flying through the air ;—devout men, so absorbed in religious meditation, as to allow the ants to construct their hillocks over them, and the roots and branches of trees to entangle about them and cover them ; demons with teeth like lions, feeding on human flesh, and capable of walking under the sea ;—others who endeavour to terrify mankind by making hideous noises, and who occasionally even attack the human race, suck the blood of men and other animals, and cause sickness and death ;—others that have no form or figure, but resemble wind ; dwelling in forests and groves, and, notwithstanding their airy nature, feeding on dirt and mud ;—and various other kinds of gods, demons, men, and nondescripts, for a more particular account of which we must refer to Dr Davy's work. He gives drawings of some of these grotesque divinities.

After what has been said relative to the great size of the organ of Cautiousness in the heads of the Cingalese, it is almost unnecessary to add that the beings above alluded to are regarded by the people with inordinate feelings of terror. Dr Davy accordingly informs us that the demons or devils are worshipped by the Cingalese. " The principle of their devotion is completely fear, and it is chiefly had recourse to in cases of extraordinary sickness or misfortune, in producing which the demons are supposed to be concerned. On such occasions the ignorant and deluded people apply to designing knaves, who pretend to possess the means of expelling or appeasing the devils. For this purpose they institute a farce called a devil-dance, which generally lasts a whole night, and consists of a variety of mummeries. This species of superstition is not approved of by the more enlightened ; it is forbidden in the religion of Boodhoo, and it is highly reprobated by the priests ; yet it is much followed, and in some parts of the country there are even small temples, called *Covillas*, erected to these imaginary malignant beings. It is stated also by Kneass, that " there are many, both gods and devils, which they worship." One species of demons derives its name from *bilaya*, the Cingalese word for fear. The offerings to evil spirits were checked as much as possible by the Dutch government, but the practice still prevails.

Their infernal regions, or abodes of the guilty, are equally characteristic. Dr Davy has given the following description of the eight principal *hellas* which are situated under the ocean. " They are all metallic hollow squares, composed of different

alloys of the common metals, and without any openings. In each there is an intense fire, which burns constantly without fuel. Though they do not differ in kind, they do in degree; the lowest being the largest and hottest, and the punishments inflicted in them proportionally more severe and of longer duration. Sinners are doomed to different hells according to the degree of their crimes; thus those who are merely guilty in thought and intention descend to the first hell; and as the crime deepens in dye, the sinner sinks lower. For each great sin there is a particular kind of punishment; for murder, the wretch is perpetually murdered, and the very act that he has been guilty of, in all its minute circumstances, is constantly repeated on him; for stealing, the sinner is punished by gems of great value in appearance, tempting him to seize them, and when seized, turning into fire; the drinker of spiritous liquors is drenched with melted lead; and the liar is constantly tormented by the application of red-hot irons to his tongue. Besides these particular punishments, there are innumerable others. They all suffer dreadfully from intense heat, and from hunger and thirst, the pains of which are heightened by the expectation of gratification, which instead of enjoying, they swallow fire. Besides, they are subject to be impaled on burning brands, and to be flogged whilst burning, and to be cut and chipped and fashioned like wood. Their tormentors are sinners like themselves, in the form of cafers, dogs, and crows, of the most monstrous appearance, and armed with teeth and claws of the most formidable kind. The most wicked are uncommonly fat, fleshy and attractive, whilst those who have sinned least are extremely thin, mere skin and bone, perfect natural skeletons, with little feeling, and no charms for their hungry tormentors. The one hundred and thirty-six smaller internal regions, that surround the eight principal, are similar to them, only differing in degree; and, as they are smaller, so they are less terrible. The period of punishment, though not infinite, is of vast duration. Having expiated their sins, either in part or entirely, some will be born as demons, brutes, or men, and some even as gods. The infernal region common to three worlds is a general receptacle, and a place of extreme punishment. It is a great hollow, composed of walls of clay, without heat or light. Those who have committed the worst of all crimes are alone doomed to it, as the murderer of a parent, a priest, or a teacher; the scorner of Boodhoo or the gods; those who oppose their worship or injure their temples. The inhabitants of this hell are punished in utter darkness, by the most intense cold, and by the calls of a ravenous appetite, that urge them to bite, and tear, and devour one another. As often as they die they come to life again, changing their abode from one hell to another,

without mitigation and without end." No imagination could have invented such horrors without the stimulus of an overpowering Cautiousness.

The Cingalese believe that Boodhoo (or Buddha) descended from the celestial regions, that he was miraculously conceived and born, and, at the request of his companions the other gods, and the Brahmins, visited the world as an instructor of religion and virtue. According to the *Poojavalila*, or book of adorations, written in the Cingalese language, his appearance on earth was accompanied by a series of very remarkable events. "On the day on which he was conceived," it is there said, "the earth was astonished with a blaze of wonders. Ten thousand worlds trembled, and the brightness of light shone round about them. Ten thousand blind received sight. Ten thousand dumb spake. Ten thousand deaf heard. The lame began to walk. All the beasts and birds that were subdued or confined, were restored to liberty. The flames of hell, which blazed through thirteen hundred and sixty thousand worlds, were completely extinguished. The persons who suffered torments in these flames were relieved from pain, and felt as if they were plunged into a refreshing stream. The hungry were fed. The beasts and birds that formerly devoured each other, played together as friends. The sick were cured of their diseases. The hatred of men was turned into love and friendship. The horses neighed. The elephants and lions uttered sounds of joy. The robes of the gods and Brahmins fell from their shoulders. Six splendid colours beamed towards different points. The wind wafted odours. Rain fell in ten thousand worlds. The fountains were supplied with water. All places of the earth were washed. The fowls of the air descended and walked upon the ground without fear. The rivers overflowed their banks. The forty thousand seas of the ten thousand worlds became smooth as a lake, and wholesome to drink as a running brook; and flowers began to spring and bloom on their borders. The trees of every kind put forth their blossom, which filled the atmosphere with their fragrance, and fell, afterwards, like a shower of rain upon the earth.

It is impossible, says Mr. Cordiner, to read this extract without perceiving some resemblance between it and the prophecies of the Old Testament. "The precepts of Buddha bear fully as great an affinity to the laws of Moses and the Commandments of the Gospel. In this they differ, that the followers of Buddha are prohibited from killing any animal whatever, from the meanest insect up to man; and from drinking any liquor or eating any drug of an intoxicating quality." (Vol. i. p. 143.)

According to the legends of the country, Buddah is said to have visited Ceylon three times. On his first coming, the island

was inhabited by devils, whom he drove away. On the second, he left on Adam's Peak the impression of his foot, which still remains and is visited by pilgrims. The third time, he consecrated sixteen different places for the purposes of divine worship. One of these is now overflowed by the sea, and snakes bred there are looked upon as objects of adoration. Another is a cavern near to Adam's Peak, now inaccessible. On all the rest, temples are still standing.

Dr Davy farther informs us, that in few parts of the world is the "establishment" of religion more regularly organized than in Ceylon. At Kandy there are two principal colleges, to one or other of which all the priests in the island belong. Under the government of these, it is conjectured that there may be about four thousand of the superior order of priests. There is an inferior order, called Samenere, and a description of pious men of low castes, who lead the life of priests, but are not ordained. The worship of Boodhoo and of his relics and images consists in presenting flowers before his shrine, in making a certain number of prostrations, and in observing a variety of forms, which it would be tedious to describe, and not very easy to comprehend. Dr Davy was once present in the sanctuary of the principal temple in Kandy during the whole ceremony of the evening service; and what he saw strongly reminded him of the ceremonial of high mass of the Roman Catholic church, incense being burnt, perfumed waters scattered about, and other religious acts performed. The worship paid to religious books consists in offering flowers before them. So scrupulous are the people in their respect to books, that they will not touch them till they have made their obeisance as to a superior, nor sit down unless the books present are placed, as a mark of distinction, on a shelf or table above them.

The rank of the priests, next to that of Boodhoo, is considered the most exalted. No one should sit in their presence, not even a king; and, like Boodhoo himself, they are entitled to worship. "Their knowledge," says Dr Davy, "is chiefly of words and idle forms; their memories are more exercised than their judgments, and their reasoning powers seldom employed, except in defence of sophistry and error." In this they differ

* Cordier, vol. i. pp. 146-149.—Davy, p. 343.

The religion of Buddha seems, at one period, to have been prevalent over the greater part of Hindostan; but though now nearly extinct in that country, his doctrines may still vie, in point of extensive domination, with those of Mohammed. The rich and populous plains of Siam, Pegu, and Annam, the whole Chinese Empire and its tributary kingdoms; the theocratic states of Budtan and Thibet; all the Tartar tribes, except the few who have embraced Islamism; the inhabitants of Ceylon, and most of the eastern isles, follow the tenets and celebrate the rites prescribed by this system of faith.—See *Asiatic Researches*, vol. vii.; and *Edinburgh Review*, vol. ix. p. 97.

† Davy, pp. 188-223.

little from the priesthood of more than one European country. Their character in general is moral and inoffensive, and as moral teachers they appear in the best light. The Boodhaical system, indeed, is remarkable for a morality little contaminated with vice and licentiousness. The people in general are not taught any of the mysteries of religion, but they are expected to believe in certain dogmas prescribed by the priests. Women as well as men may visit the temples for religious purposes; and indeed (observes Dr Davy), as in most countries where there is no restraint or prohibition, the Cingalese women are to be seen at devotion more frequently than the men*.

With respect to the intellectual attainments of this people, we have little direct information; but a pretty accurate idea of their extent may be obtained by considering the state in which the arts and sciences exist among them. "In understanding," says Knox, "they are quick and apprehensive; neat in apparel; nice in eating; not given to much sleep." This accords with the nervous temperament which they seem to possess, and the general fulness of Individuality and Eventuality indicated by their skulls. "The Cingalese scholars at the Academy of Colombo," says Cordiner, "are possessed of industry and docility, and discover a strong ambition to acquire learning. Every branch of instruction is received by them with delight; and they read the books put into their hands with a degree of transport, which ought to render the care of their education an object of public attention. Many of them converse fluently in English, and write, in a good style, very accurate translations from the Cingalese." (Vol. i. p. 161.)

But although the doctrines of Buddha be the peculiar religion of the Cingalese, at least one half of their number openly profess to be converts to Christianity. Of these, part belong to the Reformed Church of Holland, and part to the Church of Rome. The generality of the people are in the highest degree ignorant, and possess no knowledge of the principles of any religion beyond what is to be found in the most savage state. (Cordiner, vol. i. p. 145, 153.) There are many Mahometans also in Ceylon.

Of the arts and sciences of the Cingalese we can here give only a brief account. Language is considered of such consequence in the interior of Ceylon, that it is almost the only subject which is carefully and pretty generally studied there. Reading and writing are far from uncommon acquirements, and are almost as general as in England, amongst the male part of the population, to whom they are chiefly confined. The Cingalese write very neatly and expeditiously, with a sharp-pointed stile. Their books are all manuscript, and are formed of leaves of

* Davy, *loc. cit.*

trees, confined by boards. The subjects of their writings are various, chiefly theology, poetry, history, medicine, and astrology. Whether in verse or in prose, their style is completely oriental; it is equally gaudy and obscure. They are extremely fond of intricacies of style, and the more artificial it is the more it is admired. Of their music, which is extremely simple, they are very fond, and prefer it greatly to ours, which they say they do not understand. The sciences can hardly be said to exist among the Cingalese. Of the mathematics and geometry they appear to be entirely ignorant; even of arithmetic the extent of their knowledge is extremely limited. Weights and measures are little employed. Ignorant of astronomy, they are very much addicted to astrology. No people can be more devoted to this delusive art than the Cingalese, and their actions, in consequence, are in a great measure regulated by the movements of the stars. Their knowledge of medicine, chemistry, and pharmacy, is equally limited. Surgery amongst them is in an extremely rude state, and their physiology and pathology, as might be conjectured, are of the most superficial kind. In the arts, the Cingalese have made more progress than in the sciences, particularly in some of the ornamental or fine arts. Of these, painting is the least advanced. Ignorant of perspective, they rarely attempt landscape drawing, and even in representing single figures they are far from successful. They are unacquainted with the effect of light and shade in colouring, and aim only at gaudiness in effects. Of oil painting they are entirely ignorant. In Dr. Davy's work specimens of their paintings may be seen. In statuary, the efforts of the Cingalese have been more successful. *Boodhoo* is the most common object of their attempts, and figures of him, of all sizes, are to be seen in their temples. Artists are restricted in their designs to three postures, the standing, sitting, and recumbent, and to the priestly costume; and they would be guilty of impiety were they to introduce in the representation of the object of their worship even the least innovation.

The art of casting is not behind that of sculpture. It is exercised chiefly in making small figures, many of which, of brass and copper, are very neatly executed. There is now in Kandy a figure of *Boodhoo*, in a sitting posture, as large as life, so well executed, that it would be admitted even in Europe.

In architecture, the Cingalese do not appear to have any national or any very peculiar style: in no country is much greater variety to be seen. Judging from the remains of antiquity that are to be met with here and there in Ceylon, it may be inferred that architecture, for at least one or two centuries past, has been on the decline. All the public buildings that are now in

a state of preservation in the interior, are comparatively small; and few, if any, of them, excite actively interest in the spectator. Their domestic architecture is of the most unassuming character. Their best houses, those of the chiefs, are of mud with tiled roofs, raised on a low terrace, and always of a single story. The dwellings of the people are in general much on the same plan, and differ little except in size, and in the circumstance that they are invariably thatched. The royal palaces, too, were constructed nearly on the same model.

The Cingalese work in gold and silver with considerable dexterity and taste; and, with means that appear very inadequate, execute articles of jewellery that would be admired certainly in this country, and not very easily imitated. They excel more in the setting than in the cutting of jewels. The only ores that have yet been discovered in Ceylon are those of iron and manganese. With the mode of reducing the former, and of working the iron which they extract, the natives are well acquainted. The Cingalese blacksmith, in the exercise of his art, is far from unskilful: he is on a par, perhaps, with the common country blacksmith in any part of Europe. Locks, and even gunlocks and gun-barrels, do not exceed his abilities, though the workmanship is somewhat coarse.

The preparation of saltpetre and the manufacture of gunpowder, are arts which the Cingalese have for many years constantly practised; but there is not the least refinement in their method. According to their own account, they first learned from the Portuguese the use of fire-arms and the art of making them, and of manufacturing gunpowder; of both of which they were completely ignorant before they had any intercourse with Europeans. Their pottery is coarse and unglazed, and rather useful than ornamental, though the forms of some of their vessels are elegant, and of a very antique appearance. The art of weaving, has made very little progress amongst them. Their loom is of the rudest construction, and no kind of cloth is made except the coarse, strong, serviceable cotton cloth, which is worn by the common people. Agriculture, the most important, and the last of the Cingalese arts that require particular mention, is in no part of the world more respected or more followed than in the interior of Ceylon, and, in common with all the arts, it is marked by its greatest simplicity. Their implements of husbandry are few and likewise simple. Gardening is hardly known as an art, for, though they plant different kinds of palm-trees and fruit-trees round their houses, and flowering shrubs about their temples, and occasionally cultivate a few vegetables in the fields, in no part of the country is a garden according to our ideas to be seen.—(Davy, pp. 286-276.)

The Kandians, as already mentioned, form a subdivision of

the Cingalese. Although a people apparently less amiable than the others, they are, as Cordiner informs us, innocent and harmless; but the court was, in his time, full of intrigue, and the perfidy attached to its ministers reflected odium on the character of the nation. The Kandians lived in a state of the most abject submission to their king, and even looked up to him as an idol; but "the fear of punishment was the strongest principle which secured their allegiance." The courtiers were covetous, distrustful, and prone to duplicity, delighting in prostration, and bigoted to tedious customs and punctilious forms." They used to prostrate themselves on the ground before the king, and addressed him by the name of Dewo, god. His proclamations, of which Dr Davy has given the following specimen, were expressed in the highest style of oriental bombast:—"Thou most wealthy,—the protector of religion, whose fame is infinite and universally spread, and of surpassing excellence, exceeding the moon, the unexpanded jessamine-buds, the heavenly river, the white chanks, and the stars;—whose feet are as fragrant to other kings as flowers to bees;—our most noble patron and god by custom,—like Sakrea, who subdued the Assoriahs, sitting on the precious throne of Sengada-galla, that possesses the beauty and wealth of all kingdoms, and is like the heavenly kingdom of Sakrea.—Ordered," &c. In no court, perhaps, says Dr Davy, was there ever a greater display of barbarous pomp than the Kandian, or greater respect to a monarch, or more minute attention given to etiquette. The royal throne was of plated gold, ornamented with precious stones. When the king appeared on state occasions, he was either dressed in the most magnificent robes, loaded with a profusion of jewellery, or in complete armour of gold, ornamented with rubies, emeralds and diamonds. The officers of his household were ridiculous, not only for their number, but also for the nature of their occupations. The great men are described by Mr Cordiner as "wearing an aspect of confidence and cheerfulness, and appearing more at ease than the timid Cingalese." The Kandians, he adds, "manufacture a coarse soft paper of the bark of trees, and make gold chains, rings, and other ornaments." (Cordiner, vol. i. pp. 182-197. Davy, pp. 157, 158.)

The Mahabars, who occupy one-half of the coast, differ greatly from their neighbours the Cingalese. They are stouter, more active, and enterprising, but less innocent and more fraudulent. Originally emigrants from the Indian peninsula, their language, manners and religion continue the same as when they first settled in the island. They are followers of the Mahometan religion, but many of them have been converted to Christianity. (Cordiner, pp. 187-140. Lord Valentia, vol. i. p. 304.)

The Vedahs differ widely from all the other inhabitants of

the island. They are not many thousands in number, and, according to Mr Cordner, exist entirely in a savage state, living on the game which they obtain by hunting, and the spontaneous productions of the forests. They hold little intercourse with any other inhabitants, and cautiously shun being seen by any other species of the human race. It is therefore rarely that one of them falls into British hands; and even when they are caught, their timidity is so great, that little information can be obtained from them. (Vol. i. p. 91.) These are what Dr Davy calls the forest Veddahs, and his account of them is, that they "have no fixed habitation, being rather solitary animals than social, and resembling more beasts of prey, in their habits, than men." They are mentioned by the poet Montgomery, in his "Strictures on the Phrenology of the Hindoos and Negroes," (reviewed in our sixth volume, pp. 244, 368,) where he gives "some very striking information respecting this race of savages," in the belief that "nothing of the kind has ever been published by travellers or geographers." Mr Montgomery's "curious information," however, which he "lately received from two persons who had long resided on the island, where they collected scanty notices concerning them, from the most authentic sources," is nothing more than a paraphrase of what was published by old Knut a century and a half ago. The following is an extract from the work of that traveller:—"The Vaddahs speak the Chingulayes language. They kill deer, and dry the flesh over the fire, and the people of the country compass and buy it of them. They never till any ground for corn, their food being only flesh. They are very expert with their bows. They have a hide axe, which they stick in by their sides, to cut honey out of hollow trees. Some few, which are near other inhabitants, have commerce with other people. They have no towns nor houses, only live by the waters under a tree, with some boughs cut and laid round about them, to give notice when any wild beasts come near, which they may hear by their rustling and trampling upon them. Many of these habitations we saw when we fled through the woods, but God be praised, the Vaddahs were gone."—"The wilder sort of them, when they want arrows, carry their load of flesh in the night, and hang it up in a smith's shop, also a leaf cut in the form they will have their arrows made, and hang by it. Which, if the smith do make according to their pattern, they will requite, and bring him more flesh: but if he make them not, they will do him a mischief one time or another, by shooting in the night. If the smith make the arrows, he leaves them in the same place where the Vaddahs hung the flesh."—"They never cut the hair, but tie it up on their crowns in a bunch. The cloth they use is not broad nor large, scarcely enough to cover their buttocks. The wilder and tamer

sort of them do both observe a religion. They have a god peculiar to themselves. The tamer do build temples; the wild do only bring their sacrifices under trees, and while it is offering, dance round it, both men and women. They have a peculiar way by themselves of preserving flesh. They cut a hollow tree and put honey in it, and then fill it up with flesh, and stop it with clay, which lies for a reserve to eat in time of want. The "Village Vedahs" are a different tribe, having fixed abodes, and living in society. According to their own account, they are perfectly distinct from the wild Vedahs, with whom they have no intercourse, and whom they both fear and hate. The appearance of such of the village Vedahs as Dr Davy saw, "was wild in the extreme, and completely savage." They wear no clothes, and their dwellings are made of the bark of trees. "Though living together, they seem to be ignorant of all social uses, and strangers to every circumstance that ennobles man, and distinguishes him from the brute." They appear to be without names, and to be "ignorant of every art, excepting such as hardly deserve the name, and without which they could not exist, such as making a bow, an arrow, or a cord from tough fibrous plants, scratching the ground, and sowing a few seeds, and so forth. They have hardly any knowledge of numbers, and cannot count above five. They have no knowledge of medicinal plants, and only the grossest and simplest superstitious notions. They believe in the existence of evil demons, and make offerings to them when labouring under sickness, or any great misfortune. They have no idea of a supreme and beneficent God, or of a state of future existence, or of a system of rewards and punishments."—Davy, pp. 116-118. The skulls of the Vedahs are not so high or so large as those of the other tribes; nor do they present so great a development of the intellectual organs. The value of these details will be greatly enhanced by an inspection of the skulls.

ARTICLE IX.

ABRIDGED HOURS OF LABOUR—VILLAGE LIBRARIES—MINERS AT LEADHILLS.

(TO THE EDITOR OF THE PHRENOLOGICAL JOURNAL.)

SIR,—Seeing that you uniformly advocate in your Journal the adoption of shorter hours of labour in public manufactories, and also ably recommend the establishment of public libraries for the instruction of the labouring classes, "when their daily toil is at an end," I take it upon me to inform you, that, at Leadhills, both of these methods of ameliorating the lot and

raising the intellectual condition of the miners have long been adopted, and have been followed by those happy consequences which you so sanguinely anticipate.

The miners are divided into partnerships, as they are called, of eight individuals, are paid according to the quantity of ground they cut, at so much per fathom. Two of a partnership labour together, and every set is relieved at the end of six hours, so that each man is actively engaged only for that period during the twenty-four hours; and to make a change in the hours of labour, the two that go below ground at 6 A. M. one week, go, during the subsequent, at 12 noon.

As the villages of Leadhills and Wanlockhead are situated at an altitude of about 1300 feet above the level of the sea, few crops will grow, and; therefore, there is no demand for manual labour to cultivate the soil. Hence the spare hours of the miners cannot be directed to that object; and as no manufacture is carried on except the raising of lead, their leisure hours cannot be occupied with any other operations, which, when rendered excessive, eventually terminate in the degradation of the labourer, while it is doubtful if they ever contribute to the enriching of their selfish employers; for the over-confinement and over-working of the mechanic must produce a glut in the market, and consequently lower prices, thus diminishing the profits of those who tax the labourer to the utmost, making him groan under his burdens, indifferent equally to his emaciated looks, and to his almost savage ignorance. It is true that the Earl of Hopetoun grants to each miner a free house, and as much land as he can cultivate with the spade. But the culture of this is rather a relaxation than a toil, there being little inducement for them to extend their small possessions, as it is seldom that oats ripen, and the few potatoes that are raised are of a very indifferent quality.

During the middle of the last century, Mr James Stirling, whose name occupies a high place in the annals of physical astronomy, was manager of the Leadhills mines; and that the leisure hours of the workmen might be profitably employed, he formed a library, which has been productive of the best effects in polishing their minds; and though miners and colliers, as a class, are generally looked upon as the most uncivilized in this country, there is perhaps no body of workmen more intelligent than the inhabitants of Leadhills. The catalogue of the library, I see, contains about 2000 volumes of the best English authors, and as the most, I may say all, of the workmen are subscribers, the number of volumes is rapidly increasing. At Wanlockhead, a mining village belonging to the Duke of Buccleuch, within a mile of Leadhills, there is a similar institution, but the collection of books there is not so large.

At no establishment, perhaps, in town or country, is it possible to reduce the hours of labour to six hours daily; but supposing that ten hours were the stated period, the workman has at least one or two hours, by such an arrangement, to devote to his mental improvement; and it will uniformly be found, that a taste for reading infallibly springs up, whenever an opportunity of fostering and gratifying that taste exists.

In the formation of parish libraries, it is necessary that there should be no entry-money, but that each individual should pay as he reads, for a large entry-money must of necessity deter many from becoming members; whereas, the object of such institutions being to instruct the labouring classes, every inducement ought to be offered to make them become members. At Leadhills and Waploobhead, entry-money is demanded, but at these villages payments are made yearly, and any individual who wishes to enter has only to state so to the treasurer of the works, who either advances money for that purpose, or pays the librarian when the yearly settlements are made.

It is one of the great disadvantages of itinerating libraries that the members have no voice in the selection of the books, and they consequently become careless about them; while in a parish library, on the other hand, every member looks upon the books as his own, and hence considers himself responsible for such of them as he may recommend. Even the trifling duties that are necessary to manage the affairs of a library sharpen the mind, and make the members become somewhat acquainted with the forms of business; and as discussions must occasionally arise, each member is anxious to obtain information regarding the point at issue, that he may be ready to defend the measures which have been adopted, or persuade others to advocate that system of management which he wishes to be pursued. That such effects follow from permitting the members to have the management of their own affairs is completely substantiated by what happens in the library meetings at Leadhills. There is a zeal shewn in the management of its affairs, which cannot fail to keep it prosperous; and there are often a tact and a readiness exemplified by the members in the public discussions, which could originate only in the habit of expressing their sentiments in public.

That all the children about the village are taught the ordinary branches which form the course of parochial instruction, it is hardly necessary for me to mention; but, indeed, not only is it supposed to be incumbent upon them to be master of these common acquirements, but they take a lively interest in what is passing in the world around them; and I doubt not that, a few weeks ago, each miner at Leadhills was as anxious regarding the fate of the Reform Bill as the editor of the Scotsman; and

can more intelligibly explain the advantages it will produce, than any boroughmonger can elucidate its supposed evils, except when he refers to the loss of the loaves and fishes.

It is true that the washers are employed ten hours a-day, but then they cannot work during the winter, and those boys who are engaged in the operation have that season to attend school, so that abundance of time is allowed for reading and obtaining instruction. In the country, masons and some other mechanics are similarly situated, yet still there are comparatively few libraries instituted. The ploughman, "when Boreas loud does blow," has the whole winter evening to himself; and surely it would be better if it were devoted to reading books that would expand his mind, and render him conversant with the works of nature and of nature's God, than to lounging away his precious time at a smithy fire, or propagating scandal among his brother rustics. Where any library has once been established, it has generally in the end been crowned with success; and I sincerely hope that, as every parish has a public school, and a man who at least pretends "to teach the young idea how to shoot," so the wellwishers of the labouring classes will continue their efforts until every parish has a public library, so that every country hind may be as intelligent as a Leadhills miner. I am yours, &c. Δ Δ.

ARTICLE X.

BEQUEST BY THE LATE WILLIAM RAMSAY HENDERSON ESQ. FOR THE ADVANCEMENT OF PHRENOLOGY.

MR W. R. HENDERSON was the only son of the deceased Alexander Henderson, Esq., of Eildon Hall and Warriston, banker in Edinburgh. He was fond of the fine arts, and possessed very considerable talents as a landscape painter in oil. He had travelled in France, Switzerland, and Italy; was gifted with a taste for literature; and several years before his death had made himself thoroughly acquainted with Phrenology. He took so deep an interest in its diffusion, that he on one occasion attempted a course of lectures on the subject to a class of mechanics in Leith, in which he was unsuccessful, owing to a constitutional embarrassment in his utterance, especially when he was agitated or excited. He had little taste or talents for business; and this circumstance, combined with his strong tendencies towards other pursuits, induced his father ultimately to convey his property and estates to trustees, with instructions to allow his son £. 500 per

annum during his life, with the use of the mansion-house and pleasure-grounds of Eildon Hall; and to settle that estate on his son's children, if he should marry and leave offspring. In case of his son dying without issue, he allowed him to dispose by testament of L. 5000, and appointed his trustees in that event to pay that sum as his son should direct. His father died in July 1828.

On 27th May 1829, Mr W. R. Henderson executed a deed of settlement, by which he conveyed to trustees such funds as he should die possessed of, and the L. 5000 placed, by his father's trust-deed, at his disposal, in the event of his dying without leaving children. He appointed his trustees to pay certain legacies and annuities to individual friends, and gave the following instructions regarding the application of the residue of his funds.

“ And, lastly, the whole residue of my means and estate shall, after answering the purposes above written, be applied by my said trustees in whatever manner they may judge best for the advancement and diffusion of the science of phrenology, and the practical application thereof in particular; giving hereby, and committing to my said trustees, the most full and unlimited power to manage and dispose of the said residue, in whatever manner shall appear to them best suited to promote the ends in view: Declaring, that if I had less confidence in my trustees, I would make it imperative on them, to print and publish one or more editions of an ‘ Essay on the Constitution of Man, considered in relation to External Objects, by George Combe,’—in a cheap form, so as to be easily purchased by the more intelligent individuals of the poorer classes, and Mechanics’ Institutions, &c.; but that I consider it better only to request their particular attention to this suggestion, and to leave them quite at liberty to act as circumstances may seem to them to render expedient; seeing that the state of the country, and things impossible to foresee, may make what would be of unquestionable advantage now, not advisable at some future period of time. But if my decease shall happen before any material change affecting this subject, I request them to act agreeably to my suggestion. And I think it proper here to declare, that I dispose of the residue of my property in the above manner, not from my being carried away by a transient fit of enthusiasm, but from a deliberate, calm, and deep-rooted conviction, that nothing whatever hitherto known can operate so powerfully to the improvement and happiness of mankind, as the knowledge and practical adoption of the principles disclosed by Phrenology, and particularly of those which are developed in the Essay on the Constitution of Man, above mentioned.”

Mr Henderson declares that his trustees shall be bound to nominate, by a writing under their hands, two or more persons who shall be in their estimation "enlightened phrenologists, and free from all religious bigotry or narrow-minded intolerance, as successors to his said trustees in the application of the said residuary funds;" and gives them power to "assume one or more such persons as co-trustees along with themselves for the management of said residuary fund and the attainment of said objects."

Mr Henderson died, without having married, on 29th May 1832, and his settlement has now come into operation. His trustees have accepted of the office committed to them; and their first act, in fulfilment of his instructions, has been to furnish 200 copies of the "Constitution of Man," at the price of 1s. 6d. per copy, to the mechanics attending Mr Combe's Evening Course of Lectures on Phrenology, just terminated. The selling price of the work is 6s., but the publisher handsomely gave up 25 per cent., Mr Combe also abated 20 per cent., which reduced the price to 3s. 2d. per copy; of which the trustees have contributed 1s. 8d. and the students 1s. 6d. The spirit in which this donation has been received will be estimated from the report of these lectures in a subsequent article of this number.

It is not impossible that Mr Henderson's example will be followed by other phrenologists who may have the means and the desire to aid in the diffusion of the science.

ARTICLE XI.

MR COMBE'S LECTURES TO THE MECHANICS OF EDINBURGH.

SEVERAL years ago, Mr Combe wrote to the Directors of the School of Arts in this city, offering to give a course of lectures on Phrenology to the students; when he received a polite answer declining his offer, because Phrenology was not included in the list of sciences taught in that institution. Mr Combe conceiving that he had done his duty in making the offer, allowed time to do the rest; and, accordingly, in May last, a spontaneous requisition from a respectable body of mechanics, shopkeepers, and clerks, was presented to him, soliciting a course of lectures for their instruction in the evening. The lectures commenced on 7th May last, and terminated on 26th July. Two hundred and one tickets were purchased, and a few given away. The Phrenological Society gave access to their museum to the class for payment of a small sum to defray the expense of attendance,

and 84 individuals availed themselves of the permission. Mr Combe gave four lectures on the general anatomy and physiology of man, to shew the connection of the brain with, and its influence over, the other organs of the body. These lectures were illustrated by a skeleton, and large anatomical drawings. They excited much interest, and increased the effect produced by his exposition of the physiology of the brain.

Two hundred copies of "the Constitution of Man" were provided by Mr Henderson's trustees, and sold to the class at 1s. 6d. per copy, in terms of his settlement, as mentioned in Article X. of this number.

The students prepared and subscribed the following letter, which, at the close of the lectures, Mr Sclater read, having prefaced it with a neat and appropriate speech, expressive of the sentiments of the class.

"MR ROBERT SCLATER *sen.*

"SIR,

EDINBURGH, 12th July 1832.

"We the undersigned, members of the Mechanics' Phrenological Class, feel it a duty incumbent on us to express our most sincere thanks to George Combe, Esq. for the gentlemanly, liberal, and ready concession made by him to the requisition to deliver a course of lectures on the science of Phrenology, and also to acknowledge our deep sense of the obligation conferred on us, by the lucid, zealous and indefatigable manner in which he has expounded the principles, and so clearly explained the more difficult features, of the science, thereby having most satisfactorily shown us how very much our own happiness depends upon a true knowledge and a proper use of all the faculties with which we have been endowed, and having illustrated in a most powerful manner the wisdom and goodness of the Great Creator.

"We also desire to convey our thanks to the Trustees of the late Mr Henderson for the assistance afforded in enabling us to obtain possession of Mr Combe's work on the Constitution of Man, at such a low price.

"These being our sentiments, we request that you will have the goodness to make them publicly known at the close of Mr Combe's concluding lecture, and thereby oblige, Sir, your obedient servants," &c.

Mr Combe expressed himself highly gratified with the assiduity and intelligence with which his lectures had been followed, and urged his audience to proceed in the cultivation of their moral and intellectual powers, as the best means of increasing at once their happiness and usefulness through life.

The effect of these lectures has already been conspicuous. The students have prepared and sent into circulation the following prospectus for courses of lectures on other sciences.

*" Proposal for Courses of Lectures on Natural History—Chemistry
—and Phrenology combined with Physiology.*

" It is in contemplation to establish a Course of Lectures, upon each of the above sciences, in Edinburgh next winter, provided a sufficient number of individuals of either sex come forward and enrol their names in due time, to allow the necessary arrangements to be made with the gentlemen who would be requested to lecture.

" The want of the means of obtaining a general knowledge of these sciences, has long been felt by the Middle Classes of society. Hitherto they have possessed few opportunities for becoming acquainted with a mass of highly useful and interesting information, which it would be the object of these Lectures to communicate, and which, in its numerous applications to the purposes of life, is calculated greatly to improve our physical, moral, and intellectual nature.

" The regular Lectures delivered on the subjects before mentioned—besides being inaccessible to *Females*, and being delivered at hours inconvenient for persons engaged in ordinary business—are too purely scientific, too little applicable to the advancement of individuals in general knowledge, and also too expensive, to benefit the unprofessional student. A wide field of usefulness therefore lies open, which may be successfully occupied by skilful teachers, if duly encouraged by the public.

" It is unnecessary to enter into a lengthened statement of the advantages of a knowledge of the sciences above named. To those who have been longing for such an opportunity as is now offered to them, the mere proposal is enough; but to others who may have been hitherto indifferent about such matters, or who would seek nothing more than amusement after closing their daily labours, it may be proper to state, that the branches which are included in the proposed courses, afford an inexhaustible supply of the most varied and interesting *amusement* as well as *instruction*. Natural science possesses charms to interest both the old and the young, the learned and the unlearned; and were the simple and beautiful laws by which the whole of nature is held together more studied and better understood than they generally are, how differently, indeed, would the world be looked upon, and with what innocent, profitable, and lasting pleasure would those hours then be spent, which are now too often trifled away in frivolity and *ennui*, or dissipation.

" To some it may appear strange, to many it may seem even

ridiculous, to see Phrenology in the list of the proposed studies; but the projectors of this course are persuaded, that Phrenology is the only philosophical system which has any claim to the character of a true theory of human nature, and that exhibits man in his true relation to the other beings of this world. While, therefore, two of the departments of the Lectures, Natural History and Chemistry, are intended for instruction in the nature of inorganic or material substances, and of organic and animal beings,—the projectors look to Phrenology combined with Physiology for the most important of all scientific information—the knowledge of man's nature as an organized, animated, and moral being. Without this, and a knowledge of the relations in which man stands to other beings, the proposed lectures would be imperfect; and judging from what they have lately seen—the continued interest with which Mr Combe's evening lectures on Phrenology have been attended, as also from what they have heard of the interest taken in similar Lectures recently given at the London Mechanics' Institution, and elsewhere—the projectors flatter themselves that this part of the proposal will meet with very general approbation among those persons for whom the courses are intended.

“While, however, it is considered of importance that all the three departments of the lectures should be attended, it will be left to the choice of subscribers to attend any one or more at pleasure, and with this view, the following fees are proposed; viz. for the three Courses, L. 1, 1s.; for two, 15s.; and for one, 10s. 6d.

“The Lectures will probably be commenced in October next, and at such hours in the evening as may suit the convenience of those attending. Farther notice of the details will be given by means of Circulars and the Newspapers, provided, as already mentioned, a sufficient number of names be *early* enrolled.”

We shall be happy to hear that this project succeeds.

ARTICLE XII.

PROGRESSIVE IMPROVEMENTS IN EDUCATION.

IT is cheering to observe the sure, though tardy, progress of reason in regulating the details of education. Not only are infant-schools rising in various parts of the country, but we perceive teachers occasionally evincing a belief, that the more they cultivate the intellectual faculties of children by the presentment of appropriate objects and pursuits, and the more they are able to adapt the subjects which they teach to the practical business of life, and to the rational nature of man, the more successful will they be in enlightening their pupils, and in ren-

dering them moral and useful members of society. In proof of this, we have only to refer to the accounts published in this volume, of Dr Mayo's Pestalozzian School at Cheam in Surrey (p. 254); of the Belfast Academy, under the direction of Dr Bryce (p. 357); of the School of Industry at Lewes (pp. 117, 549); and of the Hazlewood School, near Birmingham, and establishment of Bruce Castle, Tottenham, near London, conducted by Messrs Hill (p. 539).

In America, too, we have seen that an institution has been opened, with the happiest results, near Philadelphia, the object of which is to combine intellectual cultivation with useful bodily labour, so as to secure good health as an indispensable basis for extensive moral and intellectual improvement (p. 174). Indeed, the Rev. Mr Tyng, a clergyman of that city, has published an able sermon on "the importance of uniting Manual Labour with Intellectual Attainments, in a preparation for the Ministry."

We learn from a letter in the New York Observer, of 11th February 1832, that the people of New England have consented to be taxed for the support of schools. Their common schools are supported to a greater or less extent at the public expense. "They have learned," says the writer, "what is a great mystery in most of the other States, that this is not only the most efficient, but also the most economical, mode of securing the education of youth. The grand principle, that the minds of the rising generation are a species of public property, demanding in an eminent degree the guardian care of government, seems to be duly understood by the civil authorities, and rapidly gaining favour among the great body of the people." The Boston system embraces primary schools, grammar and writing schools, and the Latin grammar school; besides what is called the English High School, which appears to be the most valuable of these seminaries. It was established in 1821, for the express purpose of affording the lads intending to become merchants or mechanics, better means of instruction than were provided at any of the public schools. If they have made sufficient progress, they may be admitted into this school at the age of twelve, and they remain until they have completed the course of study, which embraces a wide range, viz. arithmetic, geography, use of the globes, grammar, history, book-keeping, composition, declamation, geometry, algebra, trigonometry, natural philosophy, natural history, chemistry, moral philosophy, natural theology, rhetoric, evidences of Christianity, mental philosophy, political economy, and logic. The French language also is now taught. This school is said to be admirably conducted, and to afford great advantages to the young men who are preparing for business. A similar institution is greatly wanted in every town in Britain.

The whole of these schools are open to the children of every citizen, whether rich or poor. The son of the mayor, or of the most respectable person in the city, may be found seated by the side of the equally intelligent son of an humble mechanic. In addition to the schools above enumerated, there are 155 private seminaries in Boston, supported by individual efforts, and over which the public has no control. These embrace 4018 pupils, and are maintained at the annual expense of about L. 22,080.

"All this," says the writer alluded to, "the Bostonians consider as well expended. Many a man, however, in Philadelphia or New York, would lift up both his hands, and exclaim, 'Oh what a waste!' But let such a man (if he could be influenced by such arguments) come here, and see the intelligent population of this city. There is not a native adult that cannot read, and, what is more, scarcely one that is not in the *habit* of reading. Almost every family has a newspaper, which is well read. And when a public meeting is held at Faneuil Hall, composed of every body, rich and poor, merchants and mechanics, as well as professional men, every man seems capable of understanding the argument. Men of every profession and business address the meeting, and it would be difficult to decide which reasons in the ablest manner, or seems to understand the subject best."

The Germans, too, as appears from a communication published at page 375 of this volume, are considerably in advance of our countrymen in matters relating to education, inasmuch as the boys are habitually taught *real* as well as *verbal* knowledge, and even occasionally travel through the country along with the teacher, with the view of inspecting manufactories, mines, and other interesting objects, collecting specimens of natural history, and of becoming acquainted with the world as it really exists. An important advantage of this is, that, by seeing the different occupations of mankind, they are enabled to direct their talents to a congenial profession, much more easily than is possible for young men in this country.

We have been favoured by a friend with a printed "Outline of the System of Education pursued in Mr Bruce's academy, Percy Street, Newcastle-upon-Tyne." In addition to the usual branches of reading, writing, grammar, arithmetic, history, Latin, Greek, geography, French, and drawing, we are pleased to find the following "philosophical courses" enumerated:—"Chemistry, electricity, magnetism, and pneumatics, as connected with physical geography, meteorology, &c. Natural history, with reference especially to the mechanism and physiology of the human frame, making Paley's Natural Theology the text-book. Mental Philosophy. The evidences of Christianity."—"The study of elementary philosophy and the practical sciences having but lately formed part of the system of education pursued in the academy, Mr Bruce thought it necessary,

for his own satisfaction, and that of the friends of his pupils, to subject the scientific class to a more detailed and rigorous scrutiny than is practicable on the day of general examination: he is happy in being able to furnish the testimonial which is subjoined.

"On Thursday last, the 14th instant, the Rev. John Collingwood Bruce, A.M., examined a numerous class of his father's pupils, in theoretical and practical chemistry, through an extensive course of which he has been engaged in carrying them during the last six months. The alacrity and intelligence discovered by the young gentlemen, through the whole, was particularly gratifying to the gentlemen present, who could not help being struck with the propriety of introducing to the attention of the senior members of our public schools a knowledge of *things* as well as *words*; more especially of things connected with the business and interests of the district in which we live.

WILLIAM TURNER.

JAMES PRINGLE.

ANTHY. HARRISON.

JAMES EDGCOMBE *jun.*

THOMAS ANNANDALE.

"It is proposed in the ensuing half-year to make the bodily structure and mental constitution of man the subject of study. In the former part of the course, the plan and design of Paley, in his Natural Theology, will be kept in view; and in the latter, it is intended to introduce the pupil to an acquaintance with the faculties and feelings of the mind of man, and the application of those powers to the arts of reasoning and composition."

There is a seminary in the neighbourhood of Bath, under the direction of Messrs Clark, which bears a close resemblance to that of Mr Bruce. Particular care is bestowed in making the pupils acquainted with the natural conditions on which health and happiness depend, and in giving them a knowledge of human nature.

Institutions such as these must every year become more numerous. The chief obstacle is the ignorance and contracted minds of teachers, but it is to be hoped that this useful class will not continue to lag behind. Seminaries for instructing them in the important duties of their profession have often been hinted at, but hitherto no progress seems to have been made in this country to give effect to the suggestion.

Dr Drummond of Belfast, whose admirable work on natural history we lately noticed, has announced a course of popular lectures in that town, at a cheap rate, on that branch of science, which we cannot doubt will prove highly interesting and instructive to his audience.

ARTICLE XIII.

PROCEEDINGS OF THE PHRENOLOGICAL SOCIETY.

Edinburgh, 24th November 1831.—THE following papers were read to the Society: Prospectus of the Phrenological Society of Paris; notice of Dr Vimont's Treatise on Human and Comparative Phrenology; cases from Dr Otto of Copenhagen, and Report of the Council on Society's Museum. The thanks of the meeting was voted to Dr Otto for his interesting communication.

1st December.—Mr James Simpson was elected President in room of the Reverend Dr Welsh; Messrs William C. Trevelyan and Andrew Dun, Vice-Presidents, in place of Sir George S. Mackenzie and Mr James Bridges; and Messrs David Clyne, George Monro, and Bindon Blood, councillors, instead of Messrs Walter Tod, John Anderson *junior*, and Andrew Dun. A cast of the head of Gesche Margarete Gottfried, executed at Bremen in 1830, for poisoning, during a course of nearly twenty years, upwards of fifteen individuals, mostly her nearest relations, with an account of her life, presented by Dr Hirschfeld of Bremen, was laid on the Society's table. The Society's thanks were voted to Dr Hirschfeld for this valuable donation.

19th January 1832.—Mr Simpson read Hints on a phrenological view of Civil History as a branch of Education. An application for the admission of Mr J. A. Mason as an ordinary member was presented. Mr John Syme was admitted an ordinary member.

2d February 1832.—Mr Combe read a narrative of the Crimes of Gesche Margarete Gottfried, and Mr Robert Cox communicated an account of Peter Claudius Chevalier, a Frenchman of a similar character. He also read remarks by him on the character and cerebral development of the Charibs. Mr J. A. Mason was admitted a member of the Society.

16th February.—Mr Andrew Dun read an account of the case of John Howison, lately executed at Edinburgh for murder.

15th March.—Mr William Slate read an Essay on the Theory of Oratory.

29th March.—Mr Simpson read Observations on the progress and prospects of the cause of universal peace.

26th April.—Mr George Combe read a notice of the Journal of the Phrenological Society of Paris. Mr Robert Cox read a letter to him from Mr G. M. Schwartz of Stockholm. The following donations were presented:—Miniature Bust of Wer-

ner, the mineralogist; Cast of the Skull of a Swedish Laplander; Mask of Charles XII. of Sweden, taken after death; and Cast of the upper part of a Skull, said to be of St Brigitte;—by Mr G. M. Schwartz. Skulls of two Tigresses from India, by Dr Mackintosh. Skulls found in digging a drain in Constitution Street, Leith, by Miss Milne. The Society's thanks were desired to be returned for these valuable donations.

NOTICES.

Dr Spurzheim sailed from Havre on 20th June, for New York. He intends to lecture in the United States.

PORTSMOUTH.—It will be seen from a letter published in this number, that there has been some agitation in Portsmouth on the subject of Phrenology. A course of five lectures was given by Mr Deville of London, which drew out some hostile remarks from the newspapers. In consequence, a public lecture was delivered, in order that every one who was interested in the subject might be enabled to form a correct judgment regarding it. Thereafter a skull was handed to Mr Deville, from which he drew up a correct account of the character of the individual, whose history had previously been put into the hands of Mr Harrison, the publisher of the Hampshire Telegraph. A public discussion subsequently took place at the Mechanics' Institution, and able advocates appeared on both sides. It occupied two evenings, and was attended by upwards of 300 persons. These proceedings took place in the beginning of March; and so powerfully did they operate, that a Phrenological Society was immediately organized. Its first meeting was on the 10th of May, at which time its members were thirty in number. Dr James Scott, a gentleman whose talents are well known in the medical world, was elected president.

GLASGOW.—A correspondent has favoured us with a report of a phrenological discussion which took place some months ago in the Andersonian University of that city. Unfortunately the communication came too late for our last publication, but it forms the seventh article of the present. The debate was concluded by a clear and powerful speech from the essayist, in which he replied, with great vivacity and success, to the objections which had been urged by Dr Scouller and Dr Brown. We need not here recapitulate what he said; but we cannot omit to notice his gratifying statement, that all the medical professors in the Andersonian University "are phrenologists, probably with one single exception; whereas last year he had the honour of being supported only by one. Since that time their minds have been opened to the truth of the science. One of the gentlemen who addressed you this evening, our able Professor of Logic, who is entitled, from his situation, to give a decided opinion, is so convinced of the superiority of the new doctrine, that he has introduced it into his class." We earnestly recommend the perusal of the whole of Dr Hunter's speech. It displays a deep knowledge of the science which he defends, and the earnestness of a man who has a powerful conviction of its truth and importance. Phrenology cannot fail to flourish in such hands; and we have the confident expectation that the time is not distant when influential and talented individuals like himself and his brother professors, will join in the good work of spreading the knowledge of a doctrine which promises to urge mankind forward in the career of improvement.

HINT TO ELECTORS.—A facetious correspondent, who has oftener than once favoured us with a communication, suggests, that "as 'those who guide the plough, and talk of bullocks, cannot have knowledge,' it were well if some short directions were published, whereby all who are willing may be enabled to judge what manner of head a man ought to have, who presumes to offer himself as an efficient Member of a Reformed Parliament, which, it is desiderated,

will contrive to make the bewildering and conflicting mazes of political economy harmonize with the still more complicated economy of nature; for even under the old system there were but few of the very limited number of legitimate voters who had any personal acquaintance with, or any knowledge whatever of, the general character of the man for whom their suffrage was solicited. How much worse will it be now, when the franchise has been extended to those of a lower grade! And during a canvass, no one can expect to gather real sentiments from either circulars or personal conversation, but many individuals, though as yet ashamed to own their conversion, may be seen *hidingly* scrutinizing the configuration of heads. I, therefore, humbly suggest, that all candidates for public confidence should have their heads shaved, and, without solicitation, doff their wigs at the door of every house which they condescend to enter." We like our correspondent's hint, and, for our own part, will certainly not bestow our suffrage on a candidate whose caput is not of that form and magnitude which is pleasing to the judgment of a phrenologist. Many of the enlightened will no doubt follow our example; but these require no "short directions" to guide their choice. To those simple ones, however, who have penetrated the mysteries of Phrenology only so far as to be able to see the truth of the science, we would say,—Flee to the hall of the nearest statuary; entreat him to exhibit to you the bust of the American patriot Franklin; mark well the size and the configuration of that great philanthropist's head; impress upon your minds its great size, and the predominance of its anterior and superior departments over those behind and below, and call to your recollection the unwearied perseverance and industry, the calmness and sagacity, and the strength of mind and aptitude for the practical duties of life which he displayed, and the prodigious impulse which he gave to the cause of civil and religious liberty. Then go forth into the world, and whensoever the wigs are doffed, pick out the man whose head most resembles that of Franklin; for you may rely with confidence, that such a man will "go and do likewise." If any candidate for power shall approach you with an unshaven head, cast him from you without examination: he hath not the spirit of wisdom within him; he loves darkness better than light!

LUNATIC ASYLUMS.—We have received a letter from London, written by a lady who subscribes herself "S. N." She informs us that, several years ago, "she experienced the horrors of imprisonment, and worse than solitary confinement, in one of those vile places called lunatic asylums;" and, on that occasion, made observations which, she says, perfectly harmonize with those contained in the second part of Dr Caldwell's Treatise on Penitentiary Discipline, published in our last Number. "I am very certain," she adds, "'tis wrong, and ought not to be allowed, for any professional man, who is not a practical phrenologist, to hold a situation in insane establishments, and especially for low-bred and ignorant men and women called keepers to be allowed to brutalize the feelings of intellectual individuals. Personal experience, and observation of the melancholy effects on others, stimulate me to write. No doubt there has been a great reformation in houses for the reception of the insane; but no permanent good, I feel persuaded, will be accomplished until the subject of insanity is brought before the public, and discussed freely like any other common subject. Different societies have been formed for the benefit of the community at large, and this is highly creditable to the character of benevolent persons; but why the public should continue blind, and to all appearance wilfully so, on the interesting subject of insanity, is a matter of astonishment. I would suggest that there be a society formed for diffusing correct views on insanity." Every philanthropist must heartily concur with our correspondent's wish to see lunatic asylums placed upon a better footing. Much, no doubt, has been accomplished of late years, but infinitely more still remains to be done. It is not probable that societies will be instituted for the sole purpose of enlightening the public on the subject of insanity, but this ought to form one of the objects of every Phrenological Society. None but phrenologists, indeed, are in possession of sound and consistent views on the matter; and, of course, it is from them chiefly that improvement in this department is to be expected.

INDEX

TO THE

SEVENTH VOLUME OF THE PHRENOLOGICAL
JOURNAL AND MISCELLANY.

- ABDOMEN**, view of its contents, 581.
- Abercrombie**, Dr. review of his "Inquiries concerning the Intellectual Powers," 46. His errors, 48. *et seq.* His silence regarding Phrenology, 54. On Memory, 61.
- Adhesiveness** large in the Ceylonese, 639.
- Africans**, brains of, 436.
- Air**, pure, essential to bodily and mental vigour, 98.
- Alimentiveness**, case of morbid affection of, 64. Situation of the organ of, 66. Discovery of, by Mr Crook and Dr Hope, 315.
- Amativeness**, small, case of, 29. Large, 36. Influence of, in society, 247. Whether the sole function of the cerebellum, 440.
- America**, anticipated extent of increase of its population, 85. Phrenology in, 284, 286. Penitentiary discipline in, 390. *et seq.*
- Americans**, Dr Caldwell on a primitive tribe of, 281.
- American Annals of Education**, 165, 273.
- Indians, eloquence of the, 514.
- Chronicle of the Times, and Disseminator of Useful and Entertaining Knowledge, notice of, 269. Its remarks on Phrenology, 270.
- Peace Societies, 520.
- Anatomists** failed to discover the functions of the brain, 598.
- Anatomy and physiology** ought to be taught to women, 416.
- Andersonian University of Glasgow**, Phrenological Discussion in the, 622. All its medical professors phrenologists except one, 629.
- Ancestry**, aristocratical pride of, 130.
- Ancient nations**, moral character of, 449, *et seq.*
- Animals**, their minds compared with that of man, 80, 416. Different creations of, 84. Bouillaud's experiments on their brains, 133, 224, 309. Sir W. Hamilton's experiments on their brains, 427, 434. Size of their cerebella at different ages, 438. Baron Machado's Theory of relation between their dispositions and external appearances, 552.
- Antiphrenologists**, review of An Exposure of their unphilosophical and unchristian expedients, 615.
- Antiprecocian's** objections to infant schools, 109; answered, 109.
- Apparitions**. See *Spectral Illusions*.
- Aristocracy**, effects of the enlightenment of the people on the titles and possessions of the, 587.
- Artists**, importance of Phrenology to, 295, 506.
- Association**, memory by, 221.
- Attention**, 62.
- Bally's** miniature phrenological busts, 285.
- Barometer**, marine, its utility in pressing storms, 486.
- Belfast Academy**, education at, 357.
- Benevolence and dishonesty** may exist together, 617.
- Beauty** impaired by tight-lacing, 585.
- Biot** on Sir Isaac Newton's insanity, 337.
- Birds**, migratory. curious illustration of their faculty of Locality, 316.
- Birth**, pride of, 130.
- Bishop and Williams**, murderers, cases of, 444.
- Blood**, its importance in the animal economy, 98. Oxygenation of, 99. Effects of its condition on the mind, 598.
- Blumenbach's** opinion of Phrenology, 574, *note*.
- Bonaparte's** treatment of Dr Gall, 558.
- Bones**, unexercised, become feeble, 101.
- Boudin**, Robber, skull of, 28.
- Bouillaud's** experiments on animals to discover the functions of the brain,

- 133, 224. Strictures on, by the Editor of the Literary Gazette, 309.
- Brain, case of disease of its *left* hemisphere, with paralysis of the *right* side, 28. Case of alteration of character in consequence of its injury, 33. Cuvier on the relation of its size to the intelligence of animals, 52. Cases of insanity, with diseases of the, 103, 182. Bouillaud's experiments on the brains of animals, to determine its functions, 133, 224, 309. The human race capable of improvement by alteration of its form, 202, 328, 371. Connexion between its quality and retentive memory, 216. Requires relaxation, 337-342, 171, 335, 603. Cases of simultaneous change of character, and of its form, 373. Mutual influence of the organs, 381. Dr Caldwell's summary of the functions of its different parts, 396. Exercise of the, 405, 602. Sir W. Hamilton's experiments on the brains of animals, 427-434. Those of males larger than those of females, 424, 435. When does it attain to its full size? 436. Its specific gravity in youth, old age, health, and insanity, 442. Dr Charleton on its connexion with the mind, 597. Objection of its uniform appearance answered, 630.
- Brayley on the utility of a knowledge of nature, 540.
- Brown, Dr, Glasgow, his speech, 625-626
- Brewster's account of Sir Isaac Newton's insanity commented on, 335
- Bruce-Castle School, 539.
- Brutus, spectre of, 6.
- Buddha, account of the religion of, 641.
- Caldwell, Dr Charles, on a primitive tribe of Americans, and on Phrenology in America, 281. New views of Penitentiary Discipline, and Moral Education and Reformation of Criminals, by, 385, 493.
- Capital punishments, Dr Caldwell on, 515.
- Castration, its influence on the cerebellum, 441.
- Catalogue of Gall's collection (continued), 37, 181, 250.
- Catechism of Phrenology, 89.
- Cautiousness, 90. Very large in the heads of the Ceylonese, 638.
- Ceracchi, statuary, skull of, 30.
- Cerebellum, when does it attain its full size? 437, 438. Is it, relatively to the brain, larger in females than in males, and in the lower animals than in man? 438, 441. Its connexion with motion and nutrition, 440. Influence of castration on its size, 441.
- Ceylon, an account of its inhabitants, 634. Engravings and measurements of their skulls, 636, 637. Their dispositions, 638. Religion, 641. Sciences, 647; and arts, 648.
- Chalmers, Dr, on the invariableness of nature, 482, 488. On war, 531.
- Charibs, their notion of beauty, 577.
- Charleton, Dr Walter, review of his "Brief Discourse concerning the different Wits of Men," 597. His remarks on the connexion between the mind and the brain, *ib.* On the cause of mental diversity, 598. On *ready wit*, 599; and *ranging wit*, 600. On the object of mental diversity, 601. On mental exercise, 602.
- Cheam School, Surrey, education at, 254.
- Children, precocious, erroneously treated, 26.
- imbibe lasting ideas from their mothers and nurses, 418. Brains and dispositions of, 496.
- Cholera Morbus viewed in connection with ignorance and knowledge, 462. Whether removable by repentance of sin and by prayer, 473.
- Christ's head, how represented by painters, 506.
- Christianity, 210, 211. Requires to be purified from scholastic errors, 329, 331.
- Cingalese, 634. See *Ceylonese*.
- Classical learning, strictures on, 261, 343 *et seq.* 421.
- Cleanliness, importance of, 102.
- Clergymen, their ignorance of the philosophy of man, and the consequent inefficiency of their labours, 131, 300 *et seq.* Ought to teach natural as well as revealed religion, 207, 326.
- Picture of one in whom the organs of the animal propensities predominate, 505, 513. Have countenanced war, 534.
- Clothing, errors in the fashionable system of, 415.
- Colours, cases of imperfect perception of, 144. Explanations of the phenomena, 152.
- Combe, Dr A., notice of his observations on Mental Derangement, 67. Analysis of the analysis thereof in the London Medical Gazette, 175.
- Combe, Geo. his lectures to the Mechanics of Edinburgh, 657.
- Common-sense a fallible guide, 331.
- Comparative Phrenology, 185. Dr Vilmont's treatise on, 379.
- Compression of the body by stays, &c., beneficial effects of, 546, 577.

- Concentrativeness, its influence on memory, 219.
- Confinement, solitary, cannot reform criminals, 499.
- Conolly, Dr., his candid treatment of Phrenology, 77, 78.
- Conscientiousness, 91.
- Consciousness, a fallacious guide to knowledge of the mind, 48, *et seq.*
- Cases of double, 60.
- Convicts, Mr Deville's examinations of the heads of, 495, 612.
- Cook's voyages, narrative of, in illustration of the power of man to avert evil, 36. Health of his crews, 38, 44.
- Copernicus, reception of his discoveries, 291.
- Cordiner's account of the Cingalese, 635, *et seq.*
- Corporal punishment deprecated, 388.
- Corruption of human nature. See *Depravity*.
- Cosmo de Medicis, anecdote of, 603.
- Crimes and insanity, 184, 570.
- prevention and punishment of, 297. Dr Caldwell's views on, 385, 493.
- combination of faculties prompting to, 401, 498.
- Criminals, cases of, 28, *et seq.* 444, 494, 560, 612. Diet proper for, 511.
- Crook's discovery of the organ of Alimentiveness, 315.
- Cuvier on the relation between size of brain and intelligence of animals, 52,
- Dalton, Mr John, account of his imperfect perception of colours, 148. His theory of its cause, 153.
- Davy's account of the Cingalese, 635, *et seq.*
- Decalogue, 248.
- Delegouvé, poet, skull of, 181.
- De Lille, poet, brain of, 251.
- Demonology and witchcraft, review of Sir W. Scott's letters on, 1.
- Depravity of human nature, observations on the doctrine of the, 122, 198, *et seq.*, 325.
- Derangement, Mental, Dr A. Combe's Observations on, 67. See *Insanity*.
- Deville, cases of simultaneous change of character and form of head reported by, 373. His examination of the heads of convicts, 494, 612. His lectures in Portsmouth, 610.
- Devils worshipped by the Ceylonese, 643.
- Dewhurst's guide to human and comparative Phrenology, notice of, 313.
- Diet of criminals, 511.
- Digestive, nervous, and sanguiferous systems, their reciprocal influence, 98, 171.
- Dingwall, Sir G. S. Mackenzie's lectures at, 576.
- Discoveries, recent date of many, essential to human happiness, 83.
- Diversity of character, 425, 597.
- Double consciousness, cases of, 60.
- Drummond, Dr James, letters of, to a young naturalist, 355.
- Dunfermline Phrenological Society, 246.
- Duration of the World, 79.
- Edinburgh High School and Academy, strictures on the, 343.
- precautions used against Cholera in, 465.
- Royal Society of, and the Phrenological Journal, 571.
- Reviews confession of ignorance of the cause of differences of national character, 604.
- Education, American Annals of, 165, 273. Defects of the present system of, 168, 234, 254 *et seq.*, 343 *et seq.*
- At Dr Mayo's Pestalozzian school, 254. Importance of Phrenology in connexion with, 297, 410. Of the people, not dangerous, 333. At the Edinburgh High School and Academy, 343. Suggestion of an improved course of, 348 *et seq.*
- At Belfast Academy, 357. In Germany, 375. Of criminals, 385 *et seq.*, 493 *et seq.*
- Easy in youth, 407. Hints on civil history as a branch of, 448. In the natural sciences, 537. In Lilliput, 606. At the Lewes School of Industry, 117, 549. Progressive improvements in, 660.
- infant. See *Infant Schools*.
- Elliotson, Dr, 286. His account of the cerebral development of Williams and Bishop, murderers, 444.
- Eloquence, source of its influence, 502. Of savages, 514.
- Entail laws, evil effects of the, 594.
- Esquirol's opinion of Phrenology, 71.
- Evil, 198.
- Examiner, letter to the Editor of the, on the practical utility of Phrenology, 368.
- Example, importance of, in education, 273.
- Exercise of the mind, baneful effects of its excess, 171, 604. Illustration of this in the case of Sir Isaac Newton, 335. Its effects on the size of the brain, 374.
- Exercise, muscular, importance of, 101, 168, 171, 174. Baneful effects of its

- excess, 101. Recommended in America from the pulpit, 275.
Experience a fallible guide, 331.
- Faculties of the mind, theoretical opinions regarding the plurality of their organs, 132. Three-fourths of them have reference to this world, 204.
Falret on insanity, 73.
Fashion, caprice of, 579.
Favell, Dr Forbes F., case of insanity accompanied by cerebral disease, reported by, 103.
Fear, employed by the clergy as a motive to reformation, 505.
Filial affection, 616.
Firmness, effects of large development of, in criminals, 501.
Flourens' experiments contradicted by those of Bouillaud, 133, 134.
Food of criminals, 511.
Franck, Baroness, suicide, skull of, 181.
Franklin's opinion of war, 526.
Frontal sinus, 619.
- Galileo's account of his conversion to the Copernican system, 291. Scripture brought to disprove his doctrines, 324.
Gall, Dr, 556, 557. Catalogue of his collection (continued), 27, 181, 250. Manner in which he conducted his investigations, 293. Engraving of his head, 447. Buonaparte's treatment of, 558.
Geology throws light on the history of the globe, 82.
Georget on Insanity and Phrenology, 72.
Germany, Phrenology in, 287, 573. Education in, 375.
Ghosts, vulgar idea of, 6.
Glasgow Phrenological Society, 189.
— Dr Weir's lectures on Phrenology in, 287. Phrenological discussion in the Andersonian University at, 622.
Glories of war unmasked, 518, *et seq.*
Gloucester, character of Humphrey, Duke of, compared with his skull, 236.
Gottfried, Gesche Margarethe, murderer, account of her crimes and cerebral development, 560. Engravings of her head, 561.
Grammar-schools compared with knowledge-schools, 254, 343.
Great in literature and science, their treatment of Phrenology, 480.
Greek and Latin, in education, 261, 344, 421.
- Greeks and Romans, their low moral character, 452.
Grief, how it influences the health, 100.
- Hamilton, Sir William, strictures on his experiments on the brains of animals, 427, 434.
Harris, his imperfect perception of colours, 145.
Hawkins, James C. B., a precocious child, sketch of the life of, 14. His cerebral development, 23. Observations on the case, 26.
Hazelwood School, 539.
Health, how to be preserved, 543-7. Injured by tight-lacing, 578.
Hells of the Ceylonese described, 644.
Henderson, W. R., his bequest for the advancement of Phrenology, 658.
Hereditary transmission of mental and bodily qualities, 190, 206, 371, 411, 478.
Hibbert's Philosophy of Apparitions, 8, 11.
High School of Edinburgh, strictures on the, 343, 376.
History, application of Phrenology to the study of, 236. Hints on, as a branch of education, 448. Is a chronicle of the animal propensities, *ib.* How it ought to be written and taught, 460, 635.
Hoppe, Dr, his discovery of the organ of Alimentiveness, 315.
Horses, variety of their dispositions and cerebral configuration, 186.
Humphrey Plantagenet, Duke of Gloucester, his character and skull compared, 236.
Hungary, cholera in, 462.
Hunter, Dr, Essay on Phrenology read by him in the Glasgow Andersonian University, 622. His reply to his opponents, 623.
Hydrocephalus, cases of, 83, 34.
- Identity, personal, 59.
Idiots, mental condition of, 407.
Ignorance of man, its evil effects, 82, 83, 124, 125, 462.
Improvement, human capability of, 197, 326.
Individuality in connexion with memory, 213. In education, 256.
Industry, school of, at Lewes, 117, 549.
Infants, mortality of, whence, 415.
Infant schools, Antiprecocian's objections to, 108; answered, 109. Moral training at, 110. Not destructive of filial affection, 112. Remarks on infant education in American Annals,

273. Recommended, 348. Gulliver's Account of those in Lilliput, 607.
- Insanity, cases of, 32, 34, 35, 103, 182, 183, 184. Cases where it was cured by local application, 380. Not always accompanied by appreciable alteration of the cerebral substance, 443. Case of, with disease of organ of self-esteem, 558.
- and crimes, 184, 570.
- Instinct in animals supplies the place of observation and reflection in man, 416.
- Judas Iscariot, his head how represented by painters, 506.
- Kandians of Ceylon, 635, 640. Their character, 650.
- Kapittipola, a Kandian chief, 635.
- Kepler's love of the marvellous, 343.
- Knowledge indispensably necessary to human happiness, 80, 125, 165, 462, 543. A preventive of crime, 393.
- Knowledge schools *versus* Grammar schools, 254.
- Labour, abridgment of the hours of, 127, 276 *et seq.* 652. Baneful effects of inordinate, 101, 170, 279. Division of, 334.
- Lactoture, Abbé, skull of, 29.
- Language, organ of, in connexion with memory, 214, 217.
- Latin and Greek, in education, 261, 344, 421.
- Laws of nature, illustration of the benefit of obedience to the, in Cook's Voyages, 36. Invariable and independent, 467 *et seq.*, 481 *et seq.*
- Leadhills, intellectual condition of the miners at, 652.
- Leger, Antoine, insane murderer, case of, 184.
- Legislation, criminal, 297.
- Leith, old skulls found at, 287.
- Letter to the Conductors of the periodical press on the utility of Phrenology as a system of moral improvement, 193. To the Editor of the Literary Gazette, 309. To the Editor of the Times, 311. To the Editor of the *Examiner*, on the practical utility of Phrenology, 368. From Lilliput, 606.
- Levison, Mr J. L., lectures of, 192. Phrenological cases by, 380.
- Lewes School of Industry, account of, 117, 549.
- Liberia, a colony of free Negroes, 531.
- Liberty incompatible with ignorance, 167.
- Libraries, village, 652.
- Lilliput, education in, 606.
- Literary Gazette on Bouillaud's experiments, 309.
- Locality, curious illustration of, in migratory birds, 316. Case in which its functions were suspended by a ludicrous occurrence, 317.
- Locke's correspondence with Newton, 336.
- London Phrenological Society, 93.
- Mechanics' Institution, instruction in Phrenology at the, 192, 479.
- Press and the Phrenological Journal, 309.
- Love, 427.
- Love of approbation strong in the Ceylonese, 639.
- Macdonald, Lawrence, sculptor, account of his life and character, 154. His cerebral development, 157. His works, 160.
- Machado, Chevalier Da Gama, his theory of animal resemblances, 552.
- Machinery, legitimate consequences of the use of, in manufactures, 277.
- Macintosh, Sir James, and Phrenology, 91.
- Mackenzie, Sir G. S., and the Royal Society of Edinburgh, 571. His correspondence with Dugald Stewart, Esq. on Phrenology, 303. His lectures on Phrenology at Dingwall, 576.
- Magendie's admission that the faculty of language resides in the anterior part of the brain, 233.
- Malabars of Ceylon, 635, 650.
- Mallicollo, honesty of the inhabitants of, 40, *note*.
- Malte-Brun's opinion of Phrenology, 605.
- Man, his capability of improvement, 197, 326. A religious being, 404.
- Manufactories, miserable state of children in, 114, 169.
- Marriage, 190, 413. Ought not to be contracted in early youth, 205. Consequences of this, 206.
- Materialism of the mind not incompatible with its immortality, 58. Phrenology accused of leading to, by Dr Ryan, 366; and by Dr Brown, 626, 633.
- Mayo, Dr, his method of education at Cheam school, 254.
- Measures and weights, a knowledge of, how to be taught, 234.
- Medical Gazette's analysis of Dr A. Combe's observations on insanity analyzed, 175.
- Melmoth on education, 118,

- Memory, Dr Abercrombie on the varieties of, 61. Mr Watson on the peculiarities of, 212 :—*SIMPLE*, 214, including *extensive*, *ib.*; *retentive*, 215; *rapid*, 216; *ready*, 219; and *partial*, 220. *BY ASSOCIATION*, 221. Theory to account for a case in which it was impaired, 248.
- Metaphysics, 557.
- Middleburgh islanders, their pacific dispositions, 39, *note*.
- Milliner of Vienna, skull of, 31.
- Milne, Mr James, his imperfect perception of colours, 151.
- Mind, its close dependence on the body, 46 *et seq.*, 98 *et seq.*
- Monro's account of Sir W. Hamilton's experiments on the brains of animals, 429.
- Mothers, influence of their condition upon their offspring, 411, 478.
- Muscular exercise. See *Exercise*.
- Museums, phrenological, 314.
- Natural history ought to be taught to children, 355 *et seq.*, 573 *et seq.*
 — language of a faculty rouses the same faculty in others, 502.
 — laws. See *Laws of Nature*.
 — religion ought to be taught by the clergy, 207. Dr Drummond's Letters on, 355.
- Negroes, colony of free, 531.
- Nervous, digestive, and sanguiferous systems, their reciprocal influence, 98, 173.
- New discoveries generally opposed as hostile to religion, &c. 321, 376, 397.
- New Hollanders, cause of their mental inferiority, 605.
- New South Wales, Phrenology in, 479.
- Newton, Sir Isaac, remarks on his insanity, 335. His concentrativeness probably large, 341. His forehead, 342. His taste for the occult and marvellous, *ib.* Slow progress of belief in his discoveries, 290, 343.
- Notices, 96, 192, 286, 383, 479, 575, 665.
- Novelty, love of, whence arising, 342.
- Nurses, credulity and superstition of, 476, 608.
- Nymphomania, case of, 33.
- Objects, lessons on, 234, 254, 357, 376.
- Occult, love of the, whence, 342.
- Old age, do the brain and cerebellum diminish in? 436, 437.
- Operative classes in Britain, hints to the, 276.
- Oratory, effects of rapid memory upon, 217.
- Orb, Countess, case of, 29.
- Organs of the faculties, plurality of, 132. Increase in size by cultivation, 210. The manifestation of any of them in one individual, excites to activity the same organ in another, 502.
- Owen's infant school, 115. Cause of the failure of his establishment at New Harmony, 119.
- P
- Painters, importance of Phrenology to, 295, 506.
- Paris, Phrenological Society of, 289. Journal of that Society, 555.
- Parliamentary Reform. See *Reform*.
- Pass, Peter, his character predicated by Mr Deville from his skull, 612.
- Passions, ruling, 406.
- Pathology, why it has hitherto afforded little support to Phrenology, 65, 66.
- Peace, universal, observations on the progress and prospects of the cause of, 518.
 — Societies, 520.
- Penitentiary Discipline, Dr Caldwell on, 365, 493.
- Pennsylvania, punishment of criminals in, 391.
- Perpendicularity, perception of, 106.
- Personal identity, 59.
- Pestalozzian system of education, 254.
- Philoprogenitiveness, 90, 247, 616.
 Large in the Ceylonese, 639.
- Philosophy, its harmony with religion, 481.
- Philosophy of mind, prevalent ignorance of, 14, 193. Elucidated by Phrenology, 296.
- Phrenological Society, proceedings of the, 94, 187, 614. Its resolution to exclude *authoritative* appeals to the Scriptures in its discussions, 94.
 — of London, 93.
 — of Glasgow, 189.
 — of Dunfermline, 246.
 — of Paris, 289, 555. Its prospectus, 292. List of its members, 302, 556.
 — of Portsmouth, 615.
- Phrenological miniature busts, Bally's, 285.
 — Museums, 314.
- Phrenology, its utility as a system of moral improvement, 193. Application of, to the study of history, 236.

- In America, 281, 286. In Germany, 287, 573. Its importance, 294, *et seq.* Method of obtaining a conviction of its truth, 314. In connexion with religion, 323, 325. Dr Michael Ryan's attack on, 366. Letter on its practical utility, 368. Dr Caldwell's defence of, 395. Its importance in connexion with education, 297, 410. A knowledge of, very advantageous to mothers, 417. In New South Wales, 479. In Sweden, 578. In Portsmouth, 610. Discussion on, in the Andersonian University, Glasgow, 622. Progress of, 629. Mr W. R. Henderson's bequest for its advancement, 655. Catechism of, 89. Comparative, 186, 379. Physiognomy, 496. Poets require great memory, 218. Political economy, Archbishop Whately on, 321. Portsmouth, Mr Deville's lectures in, 610. Institution of a Phrenological Society in, 615. Prayer, efficacy of, 199, 468, 481. Precocious children, erroneous treatment of, 26. Press, letter to the conductors of the, on the utility of Phrenology as a system of moral improvement, 193. Phrenological Journal and the, 309. Prison discipline, Dr Caldwell on, 385, 493. Progressive nature of man, 82. Prophecies of the approaching end of the world, &c. 79, 372. Providence, doctrine of a particular, 467, 488. Punishment of crimes, 397, 388, 493. Capital, 515. Quakers, 532. Rank and titles, how they will be effected by the enlightenment of the people, 587. Ranks, distinction of, a natural institution, 129. Reform of Parliament considered in relation to the moral and intellectual improvement of the people, 118, 587. Religion, observations on, 131, 193, 198, 478. True, cannot be inconsistent with sound philosophy, 322, 481. Dr Drummond on the importance of natural, 355. New discoveries usually opposed as hostile to, 321, 367. Of the Ceylonese, 641. Religious nature of man, 404. Respiration, importance of free, 99. Romans, their low moral character, 455. Royal Society of Edinburgh, and the Phrenological Journal, 571. Ryan's, Dr Michael, attack on Phrenology, 366. Sandford, Mrs., review of her work on woman in her social and domestic character, 410. School of industry at Lewes, account of, 117, 549. — Infant. See *Infant Schools*. — Dr Mayo's Pestalozzian, at Cheam, 254. Schwartz, Mr G. M. of Stockholm, letter from, on Phrenology in Sweden and Germany, 573. Sciences ought to be taught to children, 355, 537. Scotland, first phrenological paper read before any society in, 192. Scotsman, on compression of the body by stays, 578. Scott, Sir Walter, review of his letters on Demonology and Witchcraft, 1. His erroneous views, 3, *et seq.* Scouller, Dr. of Glasgow, his objections to Phrenology, 623, 627. Answered, 629. Scripture and Science, 321, 491. Sculptors, importance of Phrenology to, 296. Secretiveness, its influence on memory, 219. Self-Esteem, case of disease of the organ of, with insanity, 558. Selfishness a paramount object in the history of nations, 448, *et seq.* Self-knowledge conferred by Phrenology, 298. Sermons, defects of. See *Clergymen*. Serres on the size of the cerebellum at different ages, 438. Sidney, Phrenological Society of, 96. Sight; inverted reflection of objects 107. Sinus, frontal, 619. Skull, causes of its inequalities, 28. Temperaments probably indicated by its texture, 412. Smith, Sir J. E., memory of, 215. Societies, Phrenological. See *Phrenological Society*. Soemmering on the evil effects of tight-lacing, 534. Solitary confinement cannot reform criminals, 499. Somnambulism, 6. Southcote, Joanna, incredible number of her proselytes, 360. Spartans, their character, 453.

- Spectral illusions, causes of, 5, *et seq.*
Cases of, 9, *et seq.* 162.
- Spine bent by the use of tight corsets, 583.
- Spurzheim, Dr, phrenological experiments by, 68, 186. His lectures, 192.
- Stays, baneful effects of compression of the body by, 546, 577.
- Stewart, Dugald, his imperfect perception of colours, 152. His correspondence with Sir G. S. Mackenzie on Phrenology, 303.
- Stone, Dr T., 384.
- Storms, power of man to avoid the evil effects of, 486.
- Suicide, cases of, 34, 69, 181.
- Superstition, Phrenology adverse to, 373. Remarks on, 476.
- Sweden, Phrenology in, 573.
- Swift's satirical exposure of the follies of war, 526.
- Sympathy, 502.
- Teachers, ignorance of, 106, 378. Seminaries for, 274.
- Temperaments, 508. Case of lymphatic, with great activity of mind, 30. Hereditary transmission of, 411. Probably indicated by texture of skull, 412.
- Thackrah, Mr C. Turner, on the duration of human life in Leeds, &c. 544. On the evil effects of inordinate study, 604.
- Thorax, structure and contents of the, 580. Illustrative cuts, *ib.* 581.
- Tillot mentions Sir Isaac Newton's insanity, 335.
- Titles and artificial rank, how they will be affected by the enlightenment of the people, 587.
- Tuber annulare, its size relatively to the brain and cerebellum, 441.
- Tucker, Robert, his imperfect perception of colours, 148.
- Unterberger, painter, skull of, 28.
- Utility of Phrenology as a system of moral improvement, 193.
- Valentia, Lord, his account of the Cin-galese, 635, *et seq.*
- Vedahs of Ceylon, 651.
- Vimont, Dr, account of, 314. His Treatise on Human and Comparative Phrenology, 379.
- Visions. See *Spectral Illusions*.
- Voisin on insanity, 73.
- Voisin, murderer, skull of, 31.
- Voltaire's satirical exposure of the folly of war, 525.
- Voyages of Cook, Drake, Cavendish, Dampier, Rogers, Clipperton, Shel-vock, Byron, Vancouver, La Perouse, &c., moral character of the, 44.
- Wages, combinations for raising, 276.
- Waists, compressed, evils of, 546, 578.
- War, horrors and irrationalities of, 518, *et seq.* Voltaire's satirical exposure of the folly of, 525. Swift's and Franklin's descriptions of, 526. Its glories unmasked, 527. Defensive, justifiable, 529.
- Watson, Mr Hewett, on the peculiarities of memory, 212. On Sir W. Hamilton's experiments, 434.
- Wayte, Dr, notice of his work against Phrenology, 616.
- Wealth not necessarily productive of evil, 332.
- Wilderspin's infant schools. See *infant schools*.
- Weight, functions of the organ of, 106.
- Weights and measures, a knowledge of, how to be taught, 234.
- Whately's, Archbishop, Lectures on Political Economy reviewed, 321.
- Williams and Bishop, murderers, cases of, 444.
- Willich's theory of plurality of cerebral organs, 132.
- Witchcraft and Demonology, Sir W. Scott on, 1.
- Wits of men, Dr Charleton's discourse on the different, 507.
- Wollaston's theory of imperfect perception of colours, 154.
- "Woman in her Social and Domestic Character," by Mrs John Sandford, reviewed, 410. How women ought to be educated, 414, *et seq.* Their influence in society, 419, 426. Their religious character, 422. Their minds weaker than those of men, 424, 435.
- Wonder, organ of, probably large in Kepler and Newton, 343.
- Woodbridge's American Annals of Education, 165, 273.
- Words taught to children instead of things, 118. Proper method of teaching the meaning of, 235, 254, *et seq.*
- World, duration of the, 79.
- Wurmser, General, skull and character of, 32.
- Young, Dr Thomas, his theory of imperfect perception of colours, 153.